



# MODEL G0456

## VARIABLE SPEED WOOD LATHE

### OWNER'S MANUAL



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#TR7676 PRINTED IN TAIWAN



# **WARNING!**

**Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemical are:**

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

**Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.**

## **WARNING**

**Safety labels warn about machine hazards and ways to prevent injury. The owner of this machine MUST maintain the original location and readability of the labels on the machine. If any label is removed or becomes unreadable, REPLACE that label before using the machine again. Contact Grizzly at (800) 523-4777 or [www.grizzly.com](http://www.grizzly.com) to order new labels.**

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# INTRODUCTION

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## Foreword

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We are proud to offer the Model G0456 Variable Speed Lathe. This machine is part of a growing Grizzly family of fine woodworking machinery. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

We are pleased to provide this manual with the Model G0456. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. It represents our effort to produce the best documentation possible.

The specifications, drawings, and photographs illustrated in this manual represent the Model G0456 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at **www.grizzly.com**. Any updates to your machine will be reflected in these manuals as soon as they are complete. Visit our site often to check for the latest updates to this manual!

## Contact Info

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If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.  
c/o Technical Documentation Manager  
P.O. Box 2069  
Bellingham, WA 98227-2069

We stand behind our machines. If you have any service questions or parts requests, please call or write us at the location listed below.

Grizzly Industrial, Inc.  
1203 Lycoming Mall Circle  
Muncy, PA 17756  
Phone: (570) 546-9663  
Fax: (800) 438-5901  
E-Mail: [techsupport@grizzly.com](mailto:techsupport@grizzly.com)  
Web Site: <http://www.grizzly.com>





## MACHINE DATA SHEET

Customer Service #: (570) 546-9663 • To Order Call: (800) 523-4777 • Fax #: (800) 438-5901

### MODEL G0456 VARIABLE SPEED WOOD LATHE

Design Type:..... Floor Model

#### Overall Dimensions:

Including Stand..... 52"H x 17<sup>3</sup>/<sub>4</sub>"D x 87"L  
Floor to Center Height..... 45<sup>1</sup>/<sub>2</sub>"  
Footprint..... 77" x 16<sup>1</sup>/<sub>2</sub>"  
Crate Size ..... 39<sup>1</sup>/<sub>2</sub>" L x 75" W x 35<sup>1</sup>/<sub>2</sub>" H  
Total Shipping Weight..... 633 lbs.  
Machine Weight..... 484 lbs.

#### Specifications:

Swing Over Bed..... 20"  
Swing Over Gap ..... 24<sup>1</sup>/<sub>2</sub>"  
Distance Between Centers..... 43"  
Spindle Size..... 1<sup>1</sup>/<sub>2</sub>" x 8 TPI RH  
Spindle Taper ..... MT#2  
Tailstock Taper..... MT#2  
Spindle Speeds ..... 500–2000 RPM

#### Construction:

Bed..... Precision Ground Cast Iron  
Stand ..... Pre-Formed Sheet Metal Cabinet  
Spindle Bearings ..... Shielded and Lubricated Ball Bearings  
Headstock..... Cast Iron  
Tailstock..... Cast Iron  
Sanding Table..... Cast Iron

#### Main Motor:

Type ..... DC Universal  
Horsepower ..... 2 HP  
Voltage..... 220V  
Phase/Cycle ..... Single / 60 Hz  
Amps..... 9.5 Amps  
RPM ..... 2000–9000 RPM (Variable)  
Bearings..... Shielded and Lubricated Ball Bearings  
Switch ..... Toggle

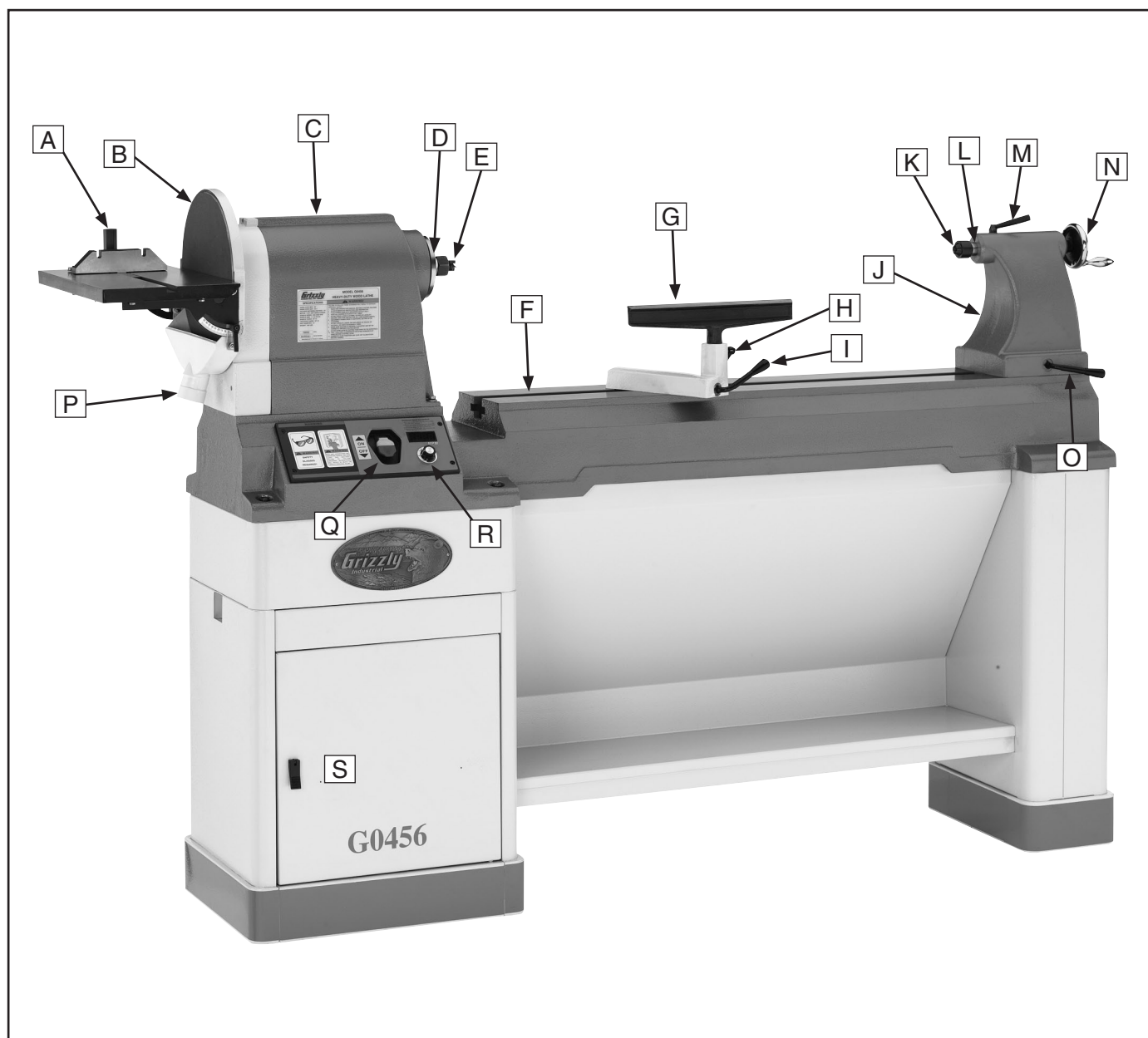
#### Features:

..... Sanding Table 17<sup>1</sup>/<sub>2</sub>" x 10"  
..... 12" Sanding Disc w/Included 100 Grit Sandpaper  
..... Included Spur & Live Centers  
..... Outboard Tool Rest 8<sup>1</sup>/<sub>2</sub>"–12" x 13<sup>3</sup>/<sub>4</sub>" W  
..... Indexed Spindle Every 15°  
..... 2" Dust Port

SPECIFICATIONS WHILE DEEMED ACCURATE, ARE NOT GUARANTEED.



# Identification



**Figure 1.** Identification of main components.

- |  |                                      |
|--|--------------------------------------|
| <b>A.</b> Miter Gauge                      | <b>K.</b> Live Center                |
| <b>B.</b> 12" Sanding Disc                 | <b>L.</b> Quill                      |
| <b>C.</b> Headstock                        | <b>M.</b> Quill Lock                 |
| <b>D.</b> Spindle                          | <b>N.</b> Quill Adjustment Handwheel |
| <b>E.</b> Spur Center                      | <b>O.</b> Tailstock Base Lock        |
| <b>F.</b> Bed                              | <b>P.</b> Dust Port 2"               |
| <b>G.</b> Tool Rest                        | <b>Q.</b> ON/OFF Paddle Switch       |
| <b>H.</b> Tool Rest Base Lock              | <b>R.</b> Speed Dial                 |
| <b>I.</b> Tool Rest Height Adjustment Lock | <b>S.</b> Stand                      |
| <b>J.</b> Tailstock                        |                                      |



# SECTION 1: SAFETY

## WARNING

### For Your Own Safety, Read Instruction Manual Before Operating this Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTICE**

This symbol is used to alert the user to useful information about proper operation of the machine.

## WARNING

### Safety Instructions for Machinery

- 1. READ THROUGH THE ENTIRE MANUAL BEFORE STARTING MACHINERY.** Machinery presents serious injury hazards to untrained users.
- 2. ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses—they are NOT safety glasses.
- 3. ALWAYS WEAR AN ANSI APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Wood dust is a carcinogen and can cause cancer and severe respiratory illnesses.
- 4. ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing damage.
- 5. WEAR PROPER APPAREL. DO NOT** wear loose clothing, gloves, neckties, rings, or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.
- 6. NEVER OPERATE MACHINERY WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.





# WARNING

## Safety Instructions for Machinery

7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.
8. **KEEP CHILDREN AND VISITORS AWAY.** Keep all children and visitors a safe distance from the work area.
9. **MAKE WORKSHOP CHILD PROOF.** Use padlocks, master switches, and remove start switch keys.
10. **NEVER LEAVE WHEN MACHINE IS RUNNING.** Turn power **OFF** and allow all moving parts to come to a complete stop before leaving machine unattended.
11. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.
12. **KEEP WORK AREA CLEAN AND WELL LIT.** Clutter and dark shadows may cause accidents.
13. **USE A GROUNDED EXTENSION CORD RATED FOR THE MACHINE AMPERAGE.** Undersized cords overheat and lose power. Replace extension cords if they become damaged. DO NOT use extension cords for 220V machinery.
14. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY.** Make sure switch is in OFF position before reconnecting.
15. **MAINTAIN MACHINERY WITH CARE.** Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
16. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**
17. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make a habit of checking for keys and adjusting wrenches before turning machinery **ON**.
18. **CHECK FOR DAMAGED PARTS BEFORE USING MACHINERY.** Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other conditions that may affect machine operation. Repair or replace damaged parts.
19. **USE RECOMMENDED ACCESSORIES.** Refer to the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury.
20. **DO NOT FORCE MACHINERY.** Work at the speed for which the machine or accessory was designed.
21. **SECURE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.
22. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
23. **MANY MACHINES WILL EJECT THE WORKPIECE TOWARD THE OPERATOR.** Know and avoid conditions that cause the workpiece to "kickback."
24. **ALWAYS LOCK MOBILE BASES (IF USED) BEFORE OPERATING MACHINERY.**
25. **BE AWARE THAT CERTAIN WOODS MAY CAUSE AN ALLERGIC REACTION** in people and animals, especially when exposed to fine dust. Make sure you know what type of wood dust you will be exposed to and always wear an approved respirator.



## WARNING

### Additional Safety for Wood Lathes

1. **KEEPING GUARDS IN PLACE.** Make sure all guards are in place and that the lathe sits on a flat, stable surface.
2. **EYE/FACE PROTECTION.** Always wear eye protection or a face shield when operating the lathe.
3. **RESPIRATORY PROTECTION.** Always wear a respirator when using this machine. Wood dust may cause allergies or long-term respiratory health problems.
4. **MOUNTING WORKPIECE.** Before starting, be certain the workpiece has been properly imbedded on the headstock and tailstock centers and that there is adequate clearance for the full rotation.
5. **ADJUSTING TOOL REST.** Adjust tool rest to provide proper support for the turning tool you will be using. Test tool rest clearance by rotating workpiece by hand before turning lathe **ON**.
6. **TURNING SPEED.** Select the correct turning speed for your work, and allow the lathe to gain full speed before using.
7. **USING SHARP CHISELS.** Keep lathe chisels properly sharpened and held firmly in position when turning.
8. **OPERATING DAMAGED LATHE.** Never operate the lathe with damaged or worn parts.
9. **WORKPIECE CONDITION.** Always inspect the condition of your workpiece. **DO NOT** turn pieces with knots, splits, and other potentially dangerous conditions. Make sure joints of glued-up pieces have high quality bonds and won't fly apart during operation.
10. **ADJUSTMENTS/MAINTENANCE.** Make sure your wood lathe is turned **OFF**, disconnected from its power source, and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.
11. **STOPPING LATHE.** **DO NOT** stop the lathe by using your hand against the workpiece. Allow the lathe to stop on its own.
12. **AVOIDING ENTANGLEMENT.** Keep long hair and loose clothing articles such as sleeves, belts, and jewelry items away from the lathe spindle.
13. **FACEPLATE TURNING.** When faceplate turning, use lathe chisels on the downward spinning side of the workpiece only.
14. **SANDING/POLISHING.** Remove the tool rest when performing sanding or polishing operations on the rotating spindle.
15. **MATERIAL REMOVAL RATE.** Attempting to remove too much material at once may cause workpiece to fly out of the lathe.

## WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

## CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.



# SECTION 2: CIRCUIT REQUIREMENTS

## 220V Single-Phase

### **WARNING**

Serious personal injury could occur if you connect the machine to the power source before you have completed the set up process. **DO NOT** connect the machine to the power source until instructed to do so.

### Amperage Draw

The Model G0456 motor draws the following amps under maximum load:

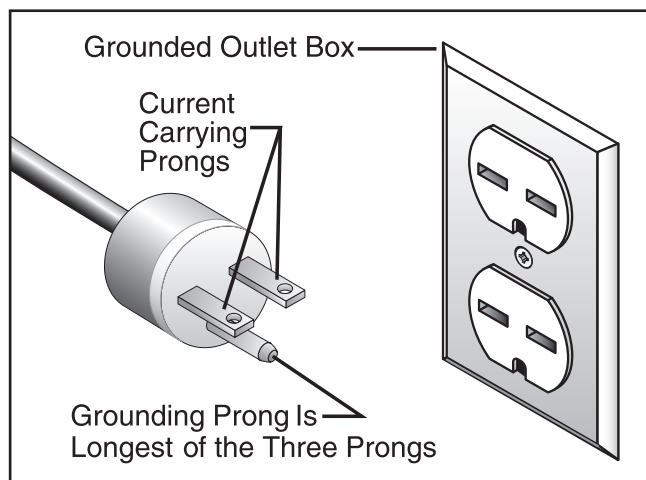
Amperage Draw at 220V ..... 9.5 Amps

### Circuit Requirements

Whether you have a dedicated or shared circuit, **ONLY** connect your machine to a circuit with a verified ground, correctly sized wiring, and a properly rated circuit breaker. Obey all applicable safety and electrical codes, including the National Electric Code (NEC). **If you are unsure about any wiring practices, consult a qualified electrician.**

### Plug/Receptacle Type

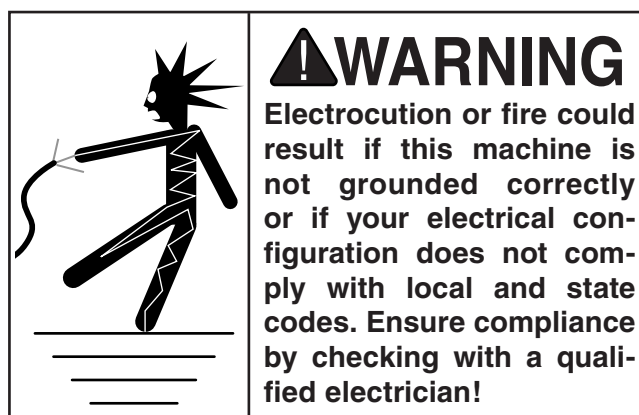
Recommended Plug/Receptacle.....NEMA 6-15



**Figure 2.** NEMA 6-15 plug and receptacle.

### Grounding

In the event of an electrical short, grounding reduces the risk of electric shock. The grounding wire in the power cord must be properly connected to the grounding prong on the plug; likewise, the outlet must be properly installed and grounded. All electrical connections must be made in accordance with local codes and ordinances.



### Extension Cords

We do not recommend the use of extension cords. Instead, arrange the placement of your equipment and the installed wiring to eliminate the need for extension cords.

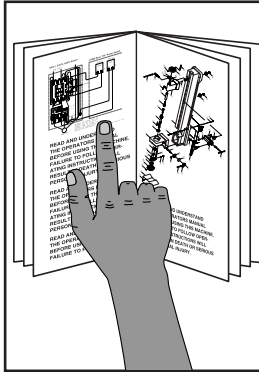
If you find it absolutely necessary to use an extension cord at 220V with your machine:

- Use at least a 14 gauge cord that does not exceed 50 feet in length!
- The extension cord must also contain a ground wire and plug pin.
- A qualified electrician **MUST** size cords over 50 feet long to prevent motor damage.



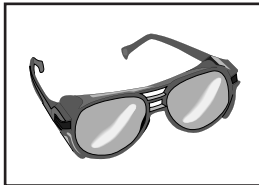
# SECTION 3: SET UP

## Set Up Safety



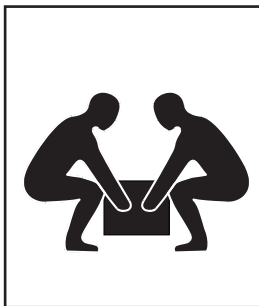
### **!WARNING**

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!



### **!WARNING**

Wear safety glasses during the entire set up process!



### **!WARNING**

The Model G0456 is a heavy machine. DO NOT over-exert yourself while unpacking or moving your machine—get assistance.

## Items Needed for Set Up

The following items are needed to complete the set up process, but are not included with your machine:

Description	Qty
• Safety Glasses (for each person) .....	1
• An Assistant .....	1
• Forklift.....	1
• Lifting Straps (600 LB Minimum Rating) ....	2
• Phillips Screwdriver #2.....	1
• Hex Wrench 6mm .....	1
• Wrench/Socket 13mm .....	1
• Wrench/Socket 15mm .....	1

## Unpacking

The Model G0456 was carefully packed when it left our warehouse. If you discover the machine is damaged after you have signed for delivery, *please immediately call Customer Service at (570) 546-9663 for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. *Otherwise, filing a freight claim can be difficult.*

When you are completely satisfied with the condition of your shipment, you should inventory the contents.

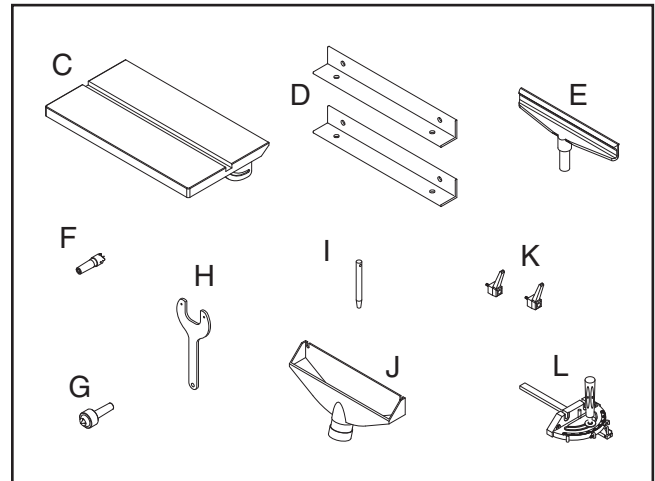


# Inventory

After all the parts have been removed from the crate, you should have the following items:

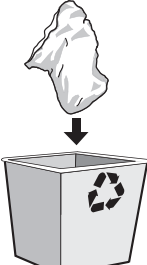
Inventory Components (Figure 3)		Qty
A.	Lathe Bed (not shown) .....	1
B.	Stand Assembly (not shown) .....	1
C.	Sanding Table .....	1
D.	L-Brackets.....	2
E.	Tool Rest .....	1
F.	Spur Center.....	1
G.	Live Center .....	1
H.	Flat Wrench 1 <sup>3</sup> / <sub>16</sub> " .....	1
I.	Lock Pin.....	1
J.	Dust Port .....	1
K.	Lock Handles.....	2
L.	Miter Gauge.....	1

Hardware (not shown)		Qty
•	Hex Bolts 7/16"-14 x 3/4" (L-Brackets) .....	4
•	Flat Washers 7/16" (L-Brackets) .....	4
•	Lock Washers 7/16" (L-Brackets, Bed) .....	10
•	Flat Washers 1/4" (Handles) .....	4
•	Cap Screws 5/16"-18 x 5/8" (Table).....	2
•	Lock Nuts 5/16"-18 (Table).....	2
•	Flat Washers 5/16" (Table) .....	2
•	Phillips Screws 10-24 x 1/2" (Dust Port) .....	2
•	Lock Washers #10 (Dust Port) .....	2
•	Cap Screws 7/16"-14 x 1 1/2" (Bed).....	6
•	Hex Wrench 4, 5, 6, 8mm .....	1 Each
•	Open End Wrench 10/12mm .....	1



**Figure 3.** Model G0456 inventory components.

In the event that any nonproprietary parts are missing (e.g. a nut or a washer), we would be glad to replace them, or for the sake of expediency, replacements can be obtained at your local hardware store.



**!WARNING**


**SUFFOCATION HAZARD!**

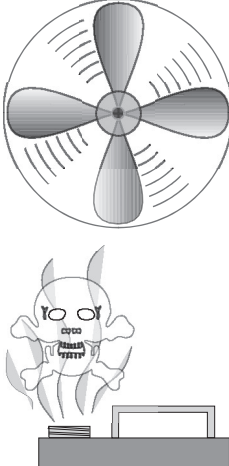
**Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.**



# Clean Up

The unpainted surfaces are coated with a waxy oil to protect them from corrosion during shipment. Remove this protective coating with a solvent cleaner or citrus-based degreaser such as Grizzly's G7895 Degreaser. To clean thoroughly, some parts may need to be removed. **For optimum performance from your machine, make sure you clean all moving parts or sliding contact surfaces that are coated.** Avoid chlorine-based solvents, such as acetone or brake parts cleaner, as they may damage painted surfaces should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

	<p><b>!WARNING</b></p> <p>Gasoline and petroleum products have low flash points and could cause an explosion or fire if used to clean machinery. <b>DO NOT</b> use gasoline or petroleum products to clean the machinery.</p>
--	---

	<p><b>!CAUTION</b></p> <p>Many of the solvents commonly used to clean machinery can be toxic when inhaled or ingested. Lack of ventilation while using these solvents could cause serious personal health risks or fire. Take precautions from this hazard by only using cleaning solvents in a well ventilated area.</p>
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# Site Considerations

## Floor Load

Refer to the **Machine Data Sheet** for the weight and footprint specifications of your machine. Some residential floors may require additional reinforcement to support both the machine and operator.

## Working Clearances

Consider existing and anticipated needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your new machine. See **Figure 4** for the minimum working clearances.

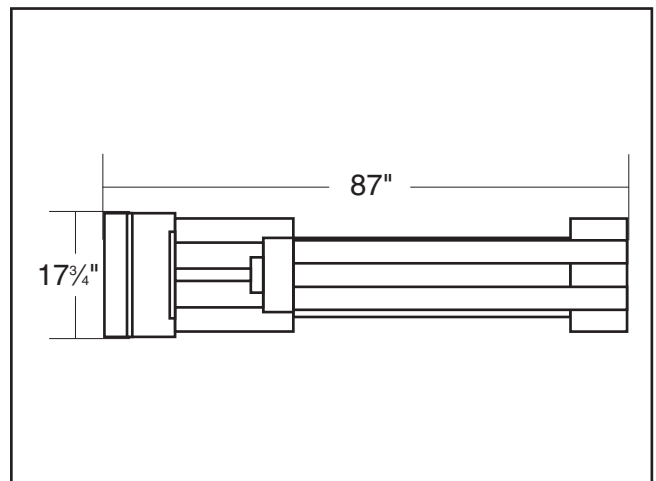


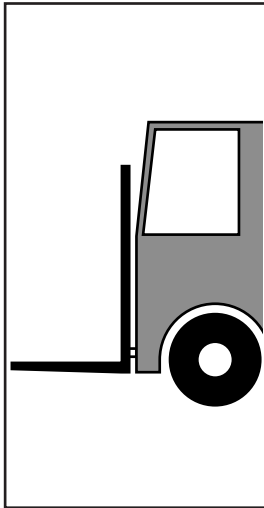
Figure 4. Minimum working clearances.

	<p><b>!CAUTION</b></p> <p>Unsupervised children and visitors inside your shop could cause serious personal injury to themselves. Lock all entrances to the shop when you are away and <b>DO NOT</b> allow unsupervised children or visitors in your shop at any time!</p>
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# Mounting Lathe



## WARNING

The Model G0456 is an extremely heavy machine. Serious personal injury may occur if safe moving methods are not followed. To be safe, use assistance and power equipment when moving the machine. If you are unfamiliar with safe machine lifting practices, hire professionals.

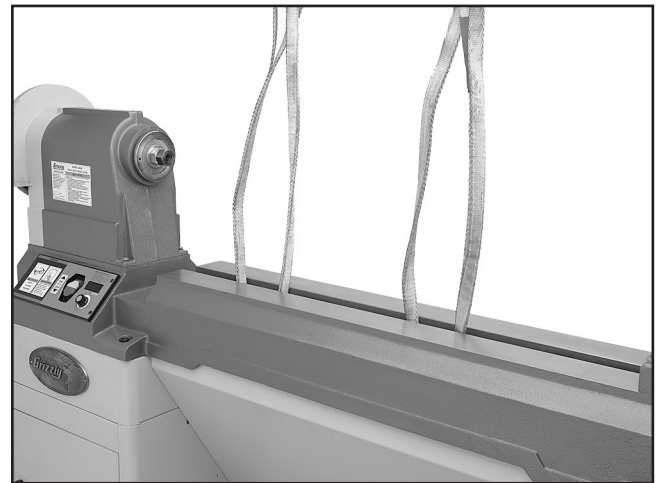
The lathe bed and stand are separated for shipping safety purposes. We recommend positioning the stand in the final location for the lathe before mounting the lathe bed. L-brackets are also provided for floor mounting.

When lifting the lathe, use a forklift and lifting straps—and have another person on the ground to steady the lathe while moving, so the lathe doesn't swing uncontrollably.

Components and Hardware Needed:	Qty
Lathe Bed .....	1
Stand Assembly .....	1
Cap Screws $\frac{7}{16}$ "-14 x $1\frac{1}{2}$ " .....	6
Lock Washers $\frac{7}{16}$ " .....	10
L-Brackets .....	2
Hex Bolts $\frac{7}{16}$ "-14 x $\frac{3}{4}$ " .....	4
Lock Washers $\frac{7}{16}$ " .....	4

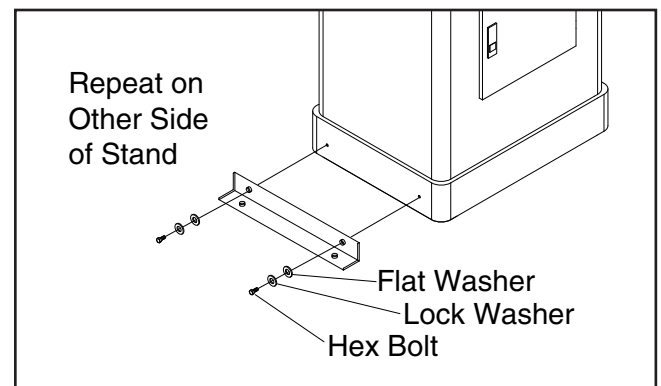
## To mount the lathe bed:

1. Move the stand to where you plan to locate the lathe.
2. Using a forklift, lift the lathe bed onto the stand by placing the lifting straps through the center of the bed and around the casting webs, as shown in **Figure 5**. The strap closest to the headstock should be wrapped around the forklift forks a few times to compensate for the heavier weight load on that side.



**Figure 5.** Placing the lathe bed on the stand.

3. Fasten the lathe bed to the stand with the cap screws and washers.
4. Install the L-brackets, as shown in **Figure 6**, with the hex bolts, lock washers, and remaining flat washers.



**Figure 6.** Installing L-brackets.

5. Mount the lathe to the floor via the holes in the L-brackets.



# Sanding Table

Components and Hardware Needed:	Qty
Sanding Table.....	1
Table Brackets.....	2
Dust Port .....	1
Lock Handles .....	2
Flat Washers 1/4" (Handles) .....	4
Cap Screws 5/16"-18 x 5/8" (Table).....	2
Lock Nuts 5/16"-18 (Table).....	2
Flat Washers 5/16" (Table) .....	2
Phillips Head Screws 10-24 x 1/2" (Dust Port) ...	2
Lock Washers #10 (Dust Port) .....	2

## To install the sanding table:

1. Mount the dust port to the casting with the Phillips screws and lock washers.
2. Mount the table to the casting with the cap screws, flat washers, and lock nuts through the hinge hole; and with the lock handles and lock washers through the slotted hole. **Figure 7** shows the table properly installed.



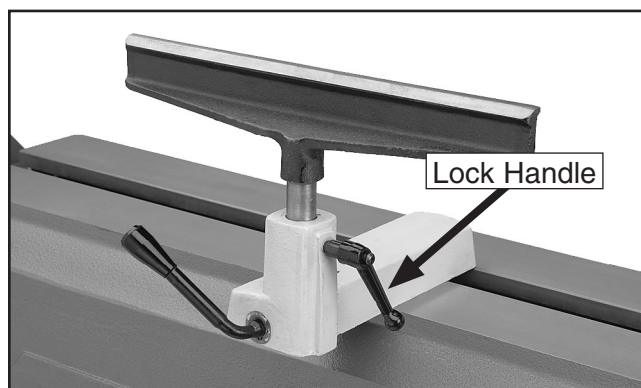
**Figure 7.** Table and dust port properly installed.

# Tool Rest

Components and Hardware Needed:	Qty
Tool Rest .....	1

## To install the tool rest:

1. Slide the tool rest shaft into the base, and tighten the lock handle. **Figure 8** shows the tool rest properly installed in the base.



**Figure 8.** Tool rest properly installed.





# Dust Collection

## ⚠ CAUTION

**DO NOT** operate the Model G0456 disc sander without an adequate dust collection system. Sanding creates substantial amounts of fine dust. Failure to use a dust collection system can result in short- and long-term respiratory illness.

### Recommended CFM at Dust Port: 100 CFM

*Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must take into account many variables, including the CFM rating of the dust collector, the length of hose between the dust collector and the machine, the amount of branches or wyes, and the amount of other open lines throughout the system. Explaining this calculation is beyond the scope of this manual. If you are unsure of your system, consult an expert or purchase a good dust collection "how-to" book. Refer to Grizzly Model G2525 "Dust Collection Basics."*

### To connect a dust collection hose:

1. Fit the 2" dust hose or adapter over the dust port, as shown in **Figure 9**, and secure in place with a hose clamp.
2. Tug the hose to make sure it does not come off. **Note:** A tight fit is necessary for proper performance.



**Figure 9.** Dust hose attached to dust port.

# Test Run

Once the assembly is complete, test run the lathe to make sure it runs properly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review the **Troubleshooting** on **Page 30**.

If you still cannot remedy a problem, contact our Tech Support at (570) 546-9663 for assistance.

### To test run the machine:

1. Plug the lathe into the power source.
2. Turn the speed dial to **OFF**, then lift the paddle switch up to turn the lathe **ON**.
3. Turn the speed dial to start the lathe spindle motor. The spindle should rotate.
4. Listen to and watch for abnormal noises or actions. The lathe should run smoothly with little or no vibration or rubbing noises.

—Strange or unusual noises should be investigated and corrected before operating the machine further. Always unplug the machine when investigating or correcting the machine.

5. Test the variable speed by slowly turning the speed up, then down, once.

—The machine should have sped up and slowed down as you moved the dial. If it did, then the test run is over and your machine is ready for normal operations.

—If the lathe had problems changing speeds, refer to the **Troubleshooting** chart on **Page 30**, or call our Tech Support at (570) 546-9663 for additional help.

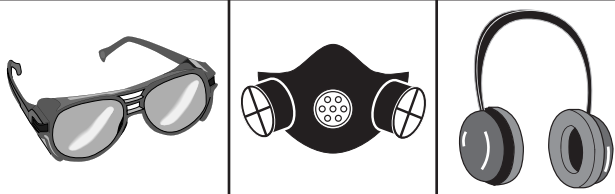


# SECTION 4: OPERATIONS

## Operation Safety

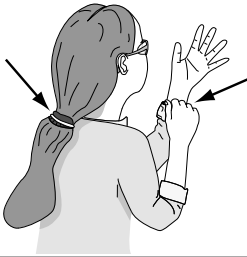
### **!WARNING**

Damage to your eyes, lungs, and ears could result from using this machine without proper protective gear. Always wear safety glasses, a respirator, and hearing protection when operating this machine.



### **!WARNING**

Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing and long hair away from moving machinery.



### **NOTICE**

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

## Safety Key

To prevent unexpected starting, remove the safety key (Figure 10) to disable the paddle switch.



Figure 10. Removing safety key to disable the switch.

## Controls

The Model G0456 features an emergency device that will disable the speed dial if the paddle switch is turned ON/OFF without turning the dial to OFF first (see Figure 11 for control locations).

Under normal circumstances, the speed dial should always be returned to the OFF position before turning the paddle switch ON or OFF.

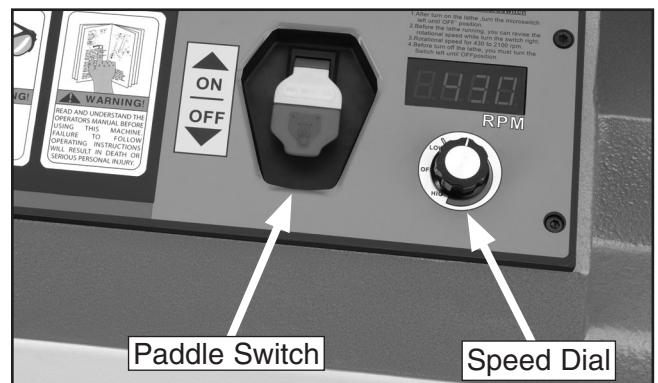


Figure 11. Model G0456 controls.



# Adjusting Tailstock

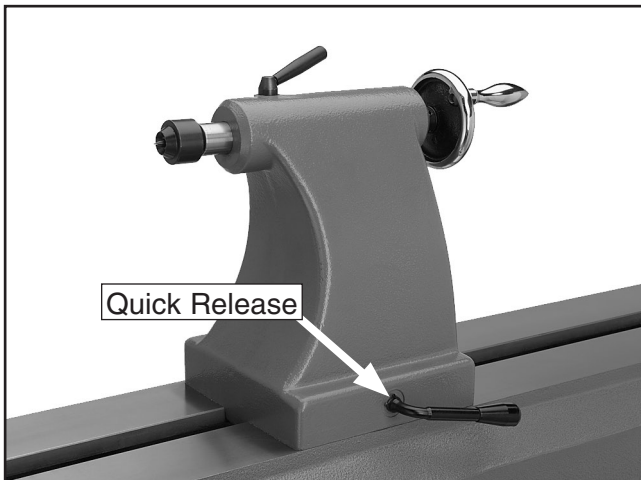
The tailstock is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is tightened, a locking plate lifts up and secures the tool rest to the bed.

## To position the tailstock along the bed:

1. Loosen the quick release and move the tailstock to the desired position (**Figure 12**).

2. Tighten the quick release.

—If the quick release will not lock the tailstock down onto the bed (either too loose or too tight), loosen or tighten the hex nut (located on the underside of the tailstock) in small increments as needed to achieve the proper clamping pressure.



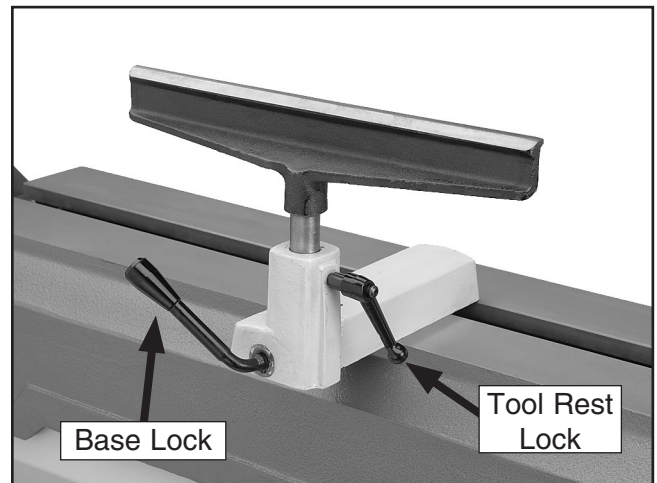
**Figure 12.** Tailstock controls.

# Adjusting Tool Rest

The tool rest is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is tightened, a locking plate lifts up and secures the tool rest to the bed.

## To position the tool rest along the bed:

1. Loosen the base lock and move the tool rest to the desired position (**Figure 13**).



**Figure 13.** Tool rest controls.

2. Tighten the base lock.

—If the base lock will not lock the tool rest down onto the bed (either too loose or too tight), loosen or tighten the hex nut (located on the underside of the tool rest) in small increments as needed to achieve the proper clamping pressure.

3. Use the tool rest lock to adjust the tool rest height as needed. **Figure 25** on **Page 22** shows how to find the proper tool rest height.



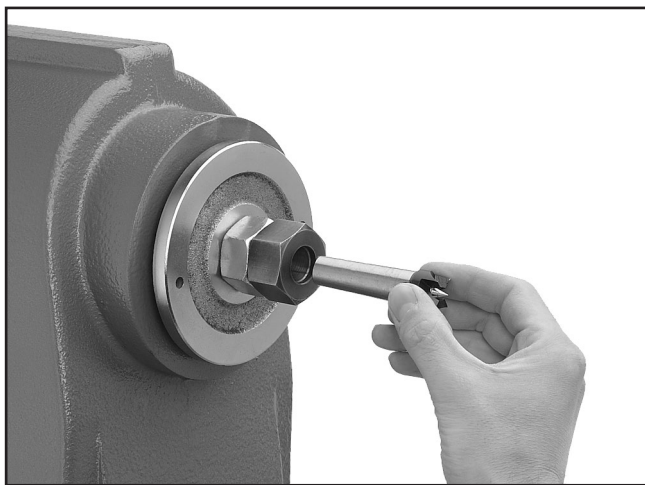
# Installing/Removing Spur Center

The spur center installs in the headstock spindle with a taper fit.

To prevent rusting, we recommend removing centers when not in use and coating the tapers with a light layer of lubricant or metal protectant.

## To install the centers:

1. DISCONNECT LATHE FROM POWER!
2. Make sure the tapers are clean and free of any dust or debris.
3. Insert the tapered end of the center into the spindle (see **Figure 14**), and push it in quickly and firmly.



**Figure 14.** Installing spur center.

## To remove the spur center:

1. DISCONNECT LATHE FROM POWER!
2. Insert the lock pin through the backing plate and into the casting.
3. Use the provided wrench to back off the nut, as shown **Figure 15**, to force the spur center out of the spindle.
4. Remove the lock pin.

## ***NOTICE***

**Leaving the lock pin installed when the lathe is switched *ON* may damage your motor or electrical components.**



**Figure 15.** Removing spur center.





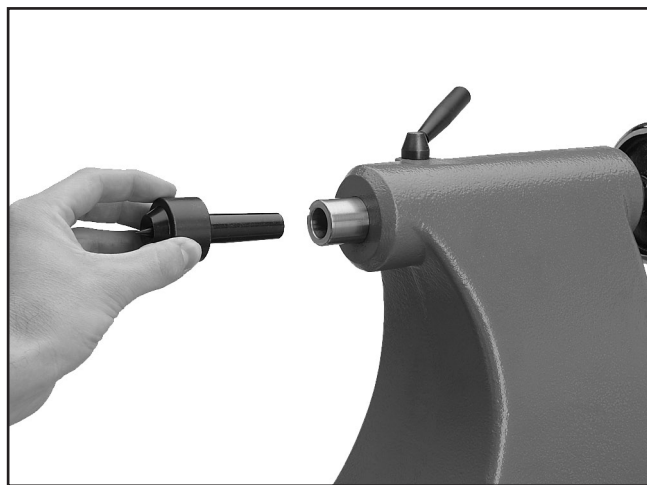
# Installing/Removing Live Center

The live center installs in the tailstock quill with a taper fit.

To prevent rusting, we recommend removing centers when not in use and coating the tapers with a light layer of lubricant or metal protectant.

## To install the live center:

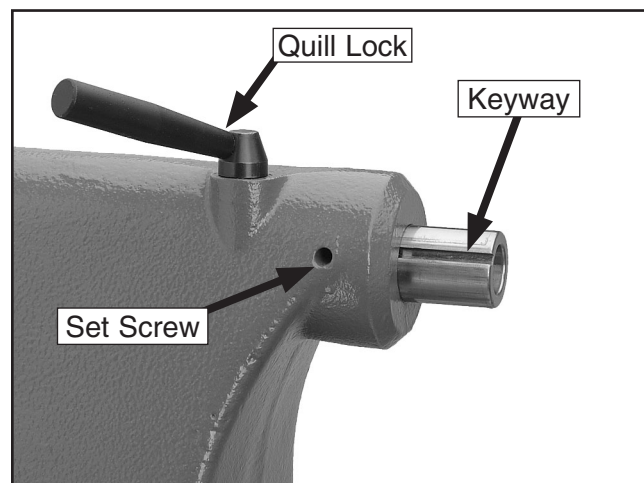
1. Loosen the quill lock (if locked) approximately half a turn.
2. Rotate the tailstock handwheel clockwise until the tailstock quill sticks out of the tailstock housing about  $\frac{1}{2}$ ".
3. Insert the live center, as shown in **Figure 16**, and push firmly.



**Figure 16.** Installing live center in tailstock.

4. Make sure the keyway is aligned with the set screw and tighten the handle (**Figure 17**).

**Note:** This alignment allows the quill to engage with the internal threads and move forward under load. Without this alignment, the quill will just spin and not advance forward under load.



**Figure 17.** Keyway aligned with set screw.

## To remove the live center:

1. Turn the handwheel counterclockwise until the tailstock quill bottoms out, causing the center to be forced out of the quill.

## WARNING

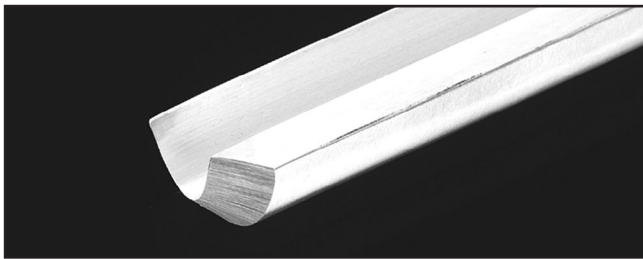
The tailstock quill lock handle must always be locked down while the lathe is in use. The workpiece can be thrown from the lathe if this step is not observed. Also, the tailstock quill should not protrude from the tailstock housing more than 2" or the quill will not be supported enough. Failure to follow these warnings may result in personal injury.



# Selecting Turning Tools

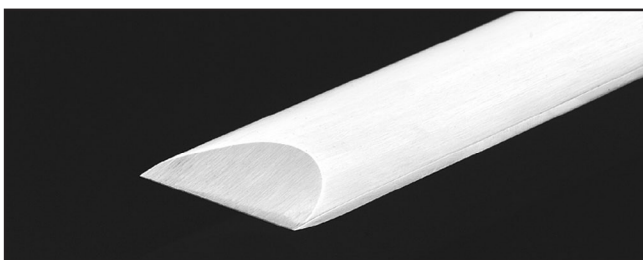
Lathe tools come in a variety of shapes and sizes and usually fall into five major categories.

- **Gouges:** Mainly used for rough cutting, detail cutting, and cove profiles. The rough gouge is a hollow, double-ground tool with a round nose, and the detail gouge is a hollow, double-ground tool with either a round or pointed nose. **Figure 18** shows an example of a gouge.



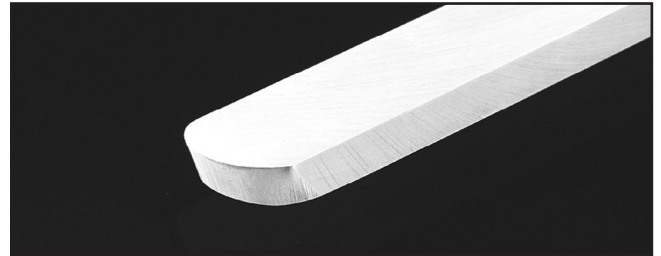
**Figure 18.** Gouge.

- **Skew Chisel:** A very versatile tool that can be used for planing, squaring, V-cutting, beading, and parting off. The skew chisel is flat, double-ground with one side higher than the other (usually at an angle of 20-40°). **Figure 19** shows an example of a skew chisel.



**Figure 19.** Skew chisel.

- **Scrapers:** Mainly used where access for other tools is limited, such as hollowing operations. This is a flat, double-ground tool that comes in a variety of profiles (Round Nose, Spear Point, Square Nose, etc.) to match many different contours. **Figure 20** shows an example of a round nose scraper.



**Figure 20.** Round nose scraper.

- **Parting Tools:** Used for sizing and cutting off work. This is a flat tool with a sharp pointed nose that may be single- or double-ground. **Figure 21** shows an example of a parting tool.



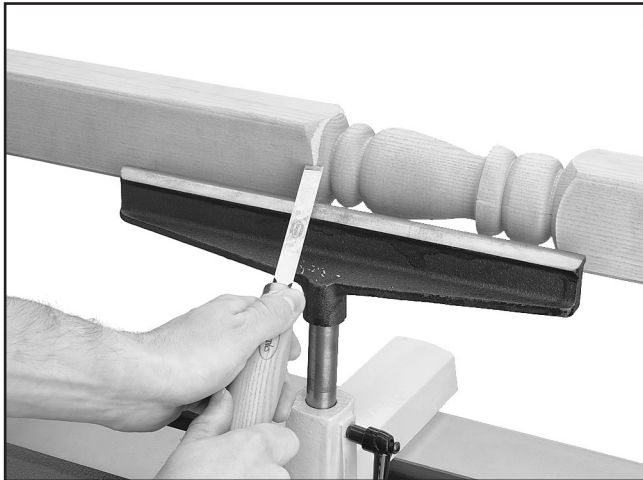
**Figure 21.** Parting tool.

- **Specialty Tools:** These are the unique, special function tools to aid in hollowing, bowl making, cutting profiles, etc. The Swan Neck Hollowing Tool shown on **Page 27** is a good example of a specialty tool.



# Spindle Turning

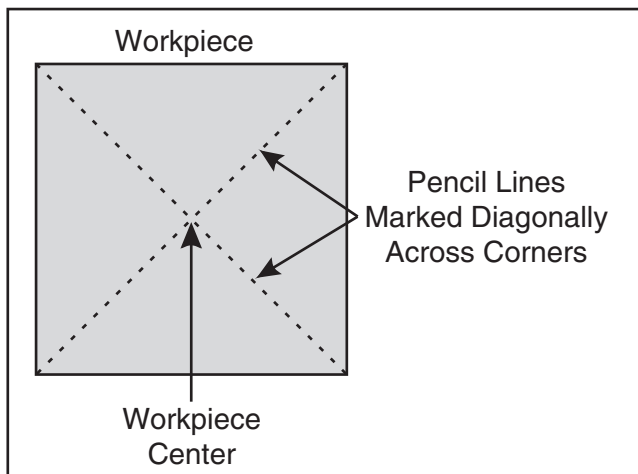
Spindle turning (**Figure 22**) is the operation performed when a workpiece is mounted between the headstock and the tailstock.



**Figure 22.** Typical spindle turning operation.

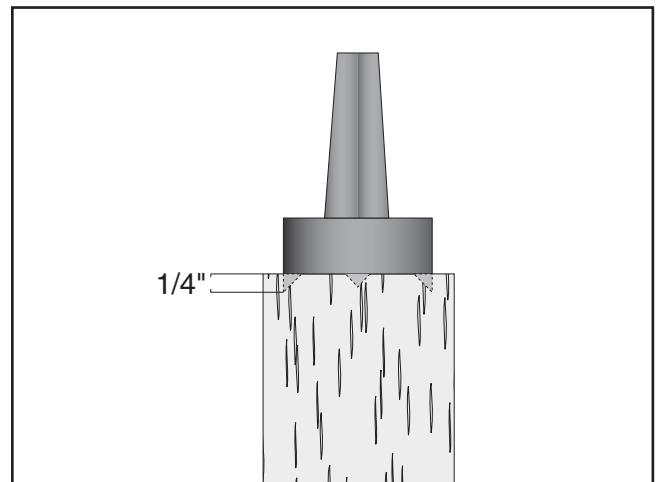
## To set up a spindle turning operation:

1. Mark both ends of your workpiece by drawing diagonal lines from corner to corner. The intersection point of these lines will show you the center of your workpiece. See **Figure 23** for details.



**Figure 23.** Workpiece marked diagonally from corner-to-corner to determine the center.

2. Using a wood mallet, tap the point of the spur center into the center of the workpiece, so it leaves a center mark, then remove the spur center.
3. Using a  $\frac{1}{4}$ " drill bit, drill a  $\frac{1}{4}$ " deep hole at the center mark. (Additionally, if the end of your workpiece is square, cut  $\frac{1}{8}$ " deep saw kerfs across the corners to help embed the spur center.)
4. Cut the corners off your workpiece if it is over 2" x 2" to make turning safer and easier.
5. Drive the spur center into the center of the workpiece with a wood mallet to embed it at least  $\frac{1}{4}$ ", as shown in **Figure 24**.



**Figure 24.** Spur center properly embedded.

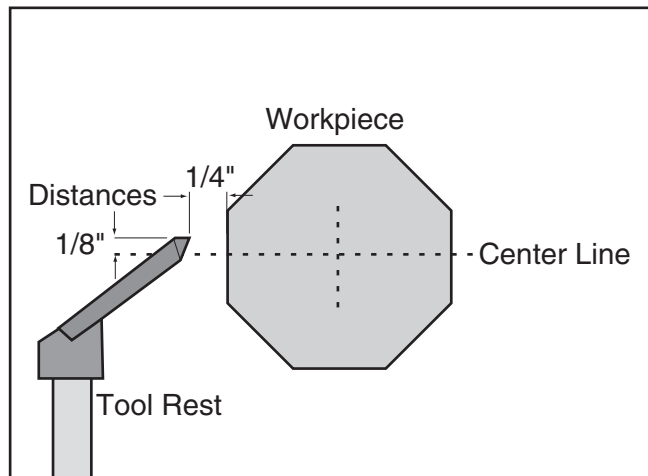
6. With the workpiece still attached, insert the spur center into the headstock spindle.
7. With the live center installed in the tailstock, slide the tailstock toward the workpiece until the live center touches the workpiece center-point, then lock the tailstock in this position.
8. Use the tailstock adjustment knob to push the live center into the workpiece at least a  $\frac{1}{4}$ ".

## WARNING

Do not press the workpiece too firmly with the tailstock or the bearings will bind and overheat. Likewise, do not adjust too loosely or the workpiece will spin off the lathe. Use good judgement. Serious personal injury could result if care is not taken.



9. Position the tool rest approximately  $\frac{1}{4}$ " away from the workpiece and approximately  $\frac{1}{8}$ " above the center line, as shown in **Figure 25**.



**Figure 25.** Tool rest set  $\frac{1}{8}$ " above the center line and  $\frac{1}{4}$ " away from workpiece.

10. Test the setup by hand-turning the workpiece to make sure there is enough clearance all the way around before starting.

## Spindle Turning Tips:

- When turning the lathe **ON**, stand to the side of the spinning direction until the lathe reaches full speed and you can verify that the lathe will not throw the workpiece.
- Use the slowest speed when starting or stopping the lathe, and when rough cutting.
- Select the right speed for the size of workpiece you are turning. Use slower speeds for large workpieces (4" diameter and over); use the middle range speeds for medium sized workpieces (2" to 4" diameter); and use faster speeds for small sized workpieces (under 2" in diameter).
- Keep the turning tool on the tool rest the ENTIRE time that it is in contact with the workpiece.
- Learn the correct techniques for each tool you will use. If you are unsure, read books or magazines about lathe techniques and seek training from experienced users.

# Faceplate Turning

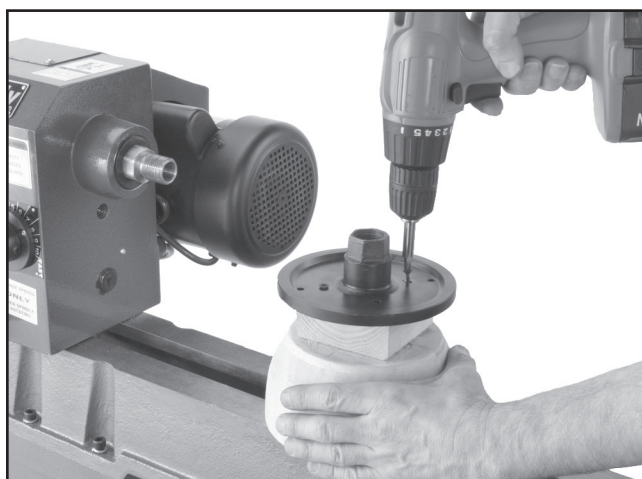
Faceplate turning (**Figure 26**) is when a workpiece is mounted to the faceplate, which is mounted to the headstock spindle. This type of turning is usually done with open-faced workpieces like bowls.



**Figure 26.** Typical faceplate turning operation.

## To mount your workpiece to the faceplate:

1. Find the center of your workpiece in the same manner as when spindle turning.
2. **Optional:** Trim corners off the workpiece with a bandsaw to easily remove known waste.
3. Center the faceplate on the workpiece and attach it through the faceplate holes with wood screws, as shown in **Figure 27**.



**Figure 27.** Mounting a typical faceplate to a backing block, which is glued to the workpiece.





4. Thread the faceplate onto the headstock spindle and tighten securely.

**Note:** *If screws cannot be placed in the workpiece, then a backing block can be glued to the workpiece and attached to the faceplate with screws.*

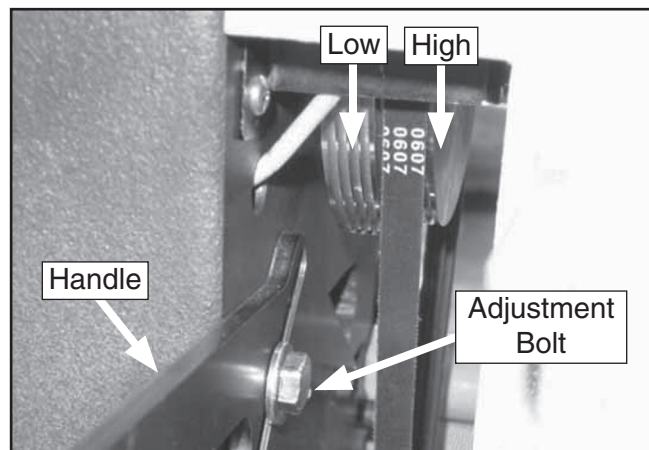
#### To mount your workpiece to a backing block:

1. Make the backing block from a piece of scrap wood that is flat on both sides.
2. Locate and mark the center of both the workpiece and the backing block.
3. Drill a  $\frac{1}{4}$ " hole in the center of the backing block.
4. Glue the center of the backing block to the center of the workpiece (look through the drilled hole to line up centers), clamp the backing block to the workpiece, and wait for the glue to cure according to the manufacturer's recommendation.

## Changing Speeds

#### To change between High and Low speeds:

1. DISCONNECT LATHE POWER SOURCE!
2. Remove the front and rear headstock covers (located just behind the sanding disc).
3. Loosen the adjustment bolt (Figure 28).

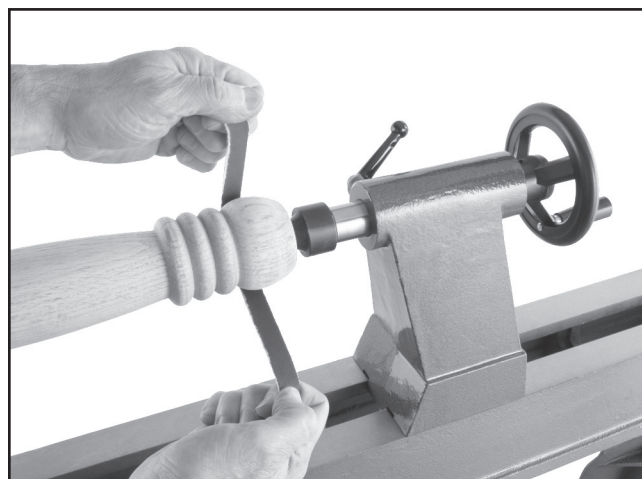


**Figure 28.** Inside the motor housing.

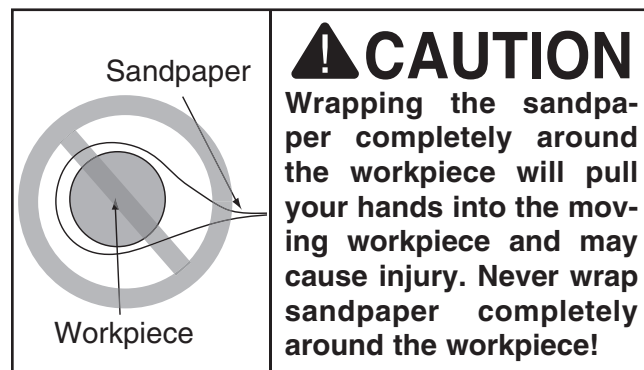
4. Use the handle to loosen the belt.
5. Place the belt on the next pulley step to select the other speed range.
6. Use the handle to tension the belt, then tighten adjustment bolt to keep the belt tight.
7. Replace the front and rear covers.

## Sanding/Finishing

After turning, the workpiece can be sanded, as shown in **Figure 29**, and finished (in the same manner) before removing it from the lathe.



**Figure 29.** Typical sanding operation with a lathe.



Whenever sanding or finishing, move the tool rest holder out of the way to increase personal safety and gain adequate working room.



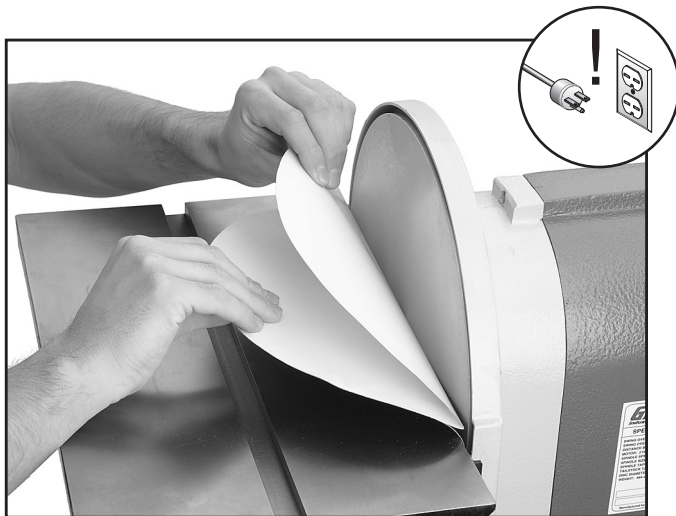
# Attaching Sandpaper

The disc sander accepts 12" diameter cloth or paper-backed PSA sanding discs, which are available through Grizzly (see **Page 28**).

The sanding disc sticks to the surface of the cast iron disc, using the pressure sensitive adhesive backing (PSA) on the reverse side of the sandpaper disc. The sandpaper can be replaced without removing either the table or the dust port.

## To attach sandpaper:

1. Peel back the protective layer on **one-half** of the sandpaper disc and fold it against the remaining half.
2. Slip the half with the protective layer between the disc and the table edge.
3. Position the exposed adhesive on the upper half of the disc that extends above the table. Once it is positioned evenly across the disc, press the adhesive onto the surface.
4. Now rotate the disc so the lower half is now above the table.
5. Bend the paper back and remove the remaining half of the protective layer (**Figure 30**), then press the adhesive portion against the disc.



**Figure 30.** Sandpaper being installed on disc.

# Disc Sanding

## To perform sanding operations:

1. Set the angle of the table relative to the sanding disc. The angle can be set with the angle gauge on the disc sander or with a protractor for greater accuracy.
2. When a 90° horizontal angle is required, place one surface of the workpiece firmly against the face of the miter gauge (set at 0°), with the other surface against the face of the disc (**Figure 31**).

**Note:** For sanding curves or irregular shapes, remove the miter gauge from the disc table. Always keep the workpiece on the side of the wheel that is rotating down toward the table. This will keep the workpiece from flying out of your hands from the rotational forces.



**Figure 31.** Typical disc sanding operation.



# Miter Sanding

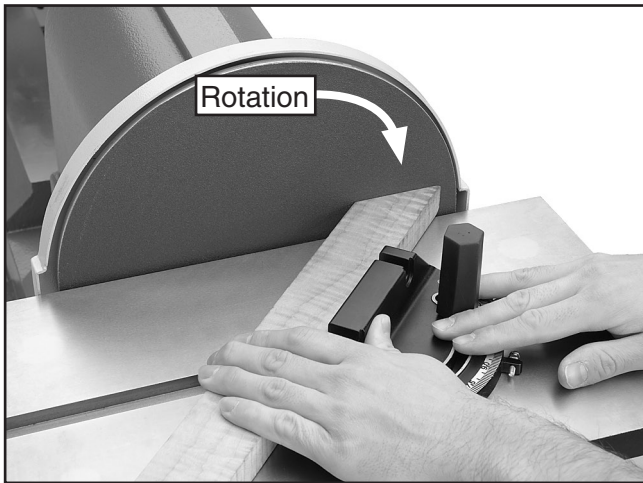
The most efficient way to get a perfect miter is to cut the workpiece slightly long and sand it to the desired dimension. Use the miter gauge to hold the workpiece at the desired angle.

## To perform miter sanding operations:

1. Loosen the knob on the miter gauge and adjust the angle to the desired point. Tighten the knob.
2. Slide the miter gauge into its slot and use it to hold your workpiece in position.

**Note:** The miter gauge can be used in either direction in the slot to achieve the proper relation of the workpiece to the disc.

3. With light, but steady pressure, push the workpiece slowly into the downspin side of the rotating disc (**Figure 32**).



**Figure 32.** Typical miter sanding operation.

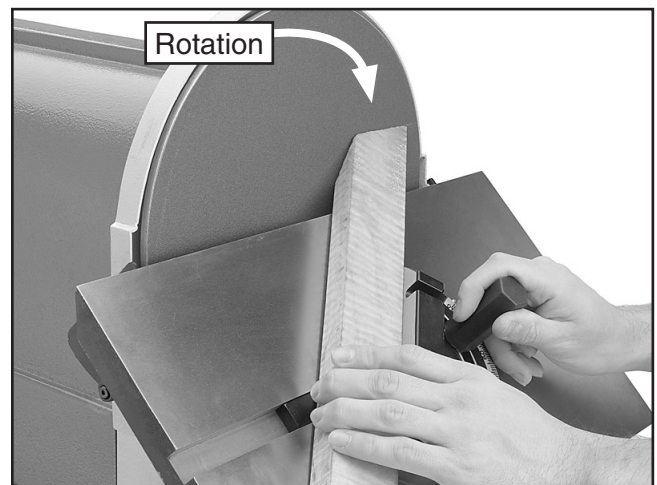
# Angle Sanding

## To perform angle sanding operations:

1. Loosen the handles securing the table.
2. Use the angle gauge to achieve the desired table angle and tighten the handles.

**Note:** The disc table can be positioned from  $-15^{\circ}$  to  $35^{\circ}$ , relative to the plane of the sanding surface. Whenever possible, sand with an open angle where there is plenty of clearance between the disc and the table. This will avoid trapping the workpiece between the sanding surface and the table.

3. Slide the miter gauge into its slot and use it to hold your workpiece in position.
4. With light, but steady pressure, push the workpiece slowly into the downspin side of the rotating disc (**Figure 33**).



**Figure 33.** Typical angle sanding operation.



# SECTION 5: ACCESSORIES

## G1194—3-Jaw Chuck

A "must have" for the serious wood turner. This 3-jaw chuck is a self-centering style chuck used mostly for round work. All three jaws tighten together at the same time. Jaws are reversible for expanded work holding capacity. *Threaded insert required for mounting!*



Figure 34. Model G1194 3-Jaw Chuck.

## G1082—4-Jaw Chuck

Another "must have" for the serious wood turner. This 4-jaw chuck is an independent type chuck that is used for square and odd-shaped pieces. Each jaw tightens individually and can be turned around to hold larger dimension workpieces. *Threaded insert required for mounting!*



Figure 35. Model G1082 4-Jaw Chuck.

## G3168—1-½" x 8 TPI RH Threaded Insert

This threaded insert is required to mount a 3- or 4-jaw chuck to your wood lathe.

## H1064—6-PC Deluxe HSS Lathe Chisel Set

This deluxe chisel set features beefy ash handles for unsurpassed control, brass ferrules and high speed steel blades. Includes: a 17" long  $\frac{13}{16}$ " Parting Tool,  $\frac{13}{16}$ " Round Nose and  $\frac{3}{8}$ " Gouge; a 19" long 1" Skew, a  $\frac{5}{8}$ " Gouge and a  $22\frac{3}{4}$ " long  $\frac{3}{8}$ " Gouge. Comes in a beautiful blow molded carrying case. An extremely popular set!



Figure 36. Model H1064 6-PC Chisel Set.

**Call 1-800-523-4777 To Order**





#### **H6542—Robert Sorby HSS 8-PC Turning Set**

If quality is king, then start bowing. Made in England, these Robert Sorby lathe tools are especially for the perfectionist wood turner. Includes  $\frac{3}{4}$ " roughing gouge,  $\frac{3}{8}$ " &  $\frac{1}{2}$ " spindle gouge,  $\frac{3}{8}$ " bowl gouge,  $\frac{3}{4}$ " standard skew,  $\frac{3}{16}$ " diamond side cut scraper, 1" square scraper and  $\frac{1}{2}$ " round scraper. Full size handles are 16"–19".



**Figure 37.** Model H6542 Robert Sorby 8-PC Set.

#### **G9863—8-PC HSS Lathe Chisel Set**

This chisel set features beautiful 8" ash handles with brass ferrules and  $3\frac{1}{2}$ " long, high speed steel blades. Chisels include:  $\frac{1}{2}$ " parting tool,  $\frac{1}{2}$ " straight chisel,  $\frac{1}{2}$ " double bevel skew,  $\frac{1}{2}$ " roundnose,  $\frac{3}{4}$ " gouge,  $\frac{3}{8}$ " gouge,  $\frac{1}{2}$ " diamond point and  $\frac{3}{8}$ " veiner. Set comes in fitted wooden case, and is very competitively priced!



**Figure 38.** Model G9863 8-PC Chisel Set.

#### **H6204—Precision Drill Chuck $\frac{1}{32}$ "– $\frac{5}{8}$ " x JT#3**

#### **G1676—Drill Chuck Arbor MT#2 x JT#3**

The best way to bore holes with your lathe!

#### **H0507—20" Swan Neck Hollowing Tool**

#### **H0508—24" Swan Neck Hollowing Tool**

An excellent choice for blind turning or undercutting where reach is restricted. H0507 is designed for end grain use while H0508 (with a more substantial steel cross section) is designed for both end grain and side grain (bowl) use.



**Figure 39.** Swan Neck Hollowing Tools.

#### **H5954—Robert Sorby Stebcentre MT#2**

Razor sharp teeth bite into the workpiece for secure operation and the spring loaded center point controls the amount of drive or slip. This patented feature helps avoid the problem of "dig-in." A great addition for production wood turners.



**Figure 40.** Robert Sorby Stebcentre.

**H1223—Woodturning, A Foundation Course**  
 Keith Rowley's best selling introduction to the art of woodturning is exceptional for its friendly and methodical approach, building up the reader's skills and confidence by logical and progressive steps. Includes step-by-step instructions for 12 simple projects. 177 Pages.

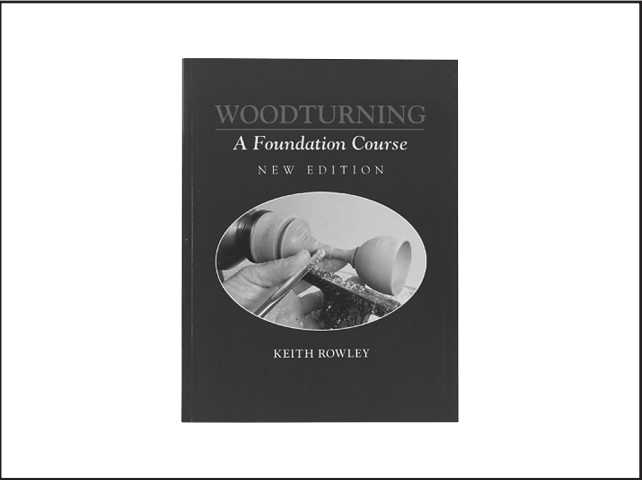


Figure 41. Model H1223 woodturning book.

**12" PSA Sanding Discs (2 pk)**  
 These replacement sanding discs are made of aluminum oxide. Manufactured in an ISO 9002 factory.

Model	Grit
G1220.....	60
G4225.....	80
G1221.....	100
G4256.....	120
G1222.....	150
G4257.....	180
G4258.....	220



Figure 42. Replacement 12" sanding discs.

**G7984—Face Shield**  
**H1298—Dust Sealed Safety Glasses**  
**H1300—UV Blocking, Clear Safety Glasses**  
**H2347—Uvex® Spitfire Safety Glasses**  
**H0736—Shop Fox® Safety Glasses**  
 Safety Glasses are essential to every shop. If you already have a pair, buy extras for visitors or employees. You can't be too careful when it comes to shop safety!



Figure 43. Our most popular safety glasses.

**G5562—SLIPIT® 1 Qt. Gel**  
**G5563—SLIPIT® 12 oz Spray**  
**G2871—Boeshield® T-9 12 oz Spray**  
**G2870—Boeshield® T-9 4 oz Spray**  
**H3788—G96® Gun Treatment 12 oz Spray**  
**H3789—G96® Gun Treatment 4.5 oz Spray**



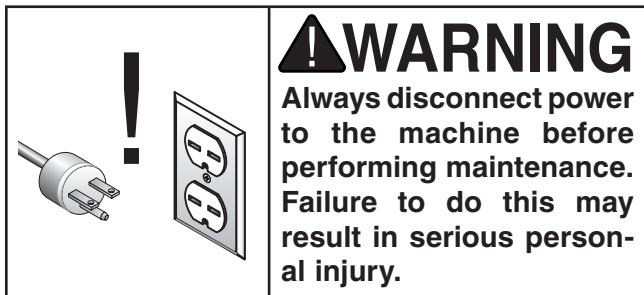
Figure 44. Recommended products for protecting unpainted cast iron/steel part on machinery.

**Call 1-800-523-4777 To Order**



# SECTION 6: MAINTENANCE

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## Cleaning/Lubricating

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Cleaning the Model G0456 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it. Treat all unpainted cast iron and steel with a non-staining lubricant after cleaning.

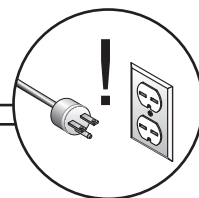
Lubricate the unpainted cast iron surfaces on the bed by wiping the table clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. We recommend using products such as G96® Gun Treatment, SLIPIT®, or Boeshield® T-9 for lubricating the unpainted cast iron on your machine.



# SECTION 7: SERVICE

Review the troubleshooting and procedures in this section to fix your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

## Troubleshooting



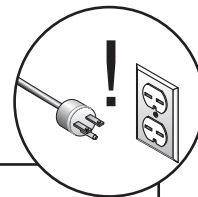
### Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> <li>Emergency lockout enabled.</li> <li>Power supply is at fault/switched OFF.</li> <li>Speed dial/rheostat is at fault.</li> <li>Computer board is at fault.</li> <li>Lockout key is at fault.</li> <li>Motor brushes are at fault.</li> <li>ON/OFF switch is at fault.</li> <li>Wiring is open/has high resistance.</li> <li>Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Turn both paddle switch and speed dial <b>OFF</b>. Turn paddle switch <b>ON</b> first, then turn speed dial.</li> <li>Ensure hot lines have correct voltage on all legs and main power supply is switched ON.</li> <li>Test/replace if faulty.</li> <li>Inspect computer board; replace if faulty.</li> <li>Install/replace lockout key; replace switch.</li> <li>Remove and replace brushes (refer to <b>Page 34</b>).</li> <li>Replace faulty ON button or ON/OFF switch.</li> <li>Repair wiring as necessary.</li> <li>Test/repair/replace.</li> </ol>
Machine stalls or is underpowered.	<ol style="list-style-type: none"> <li>Feed rate/cutting speed too fast for task.</li> <li>Low power supply voltage.</li> <li>Computer board is at fault.</li> <li>Motor speed dial/rheostat is at fault.</li> <li>Belt(s) slipping.</li> <li>Plug/receptacle is at fault.</li> <li>Motor brushes are at fault.</li> <li>Motor bearings are at fault.</li> <li>Machine is undersized for the task.</li> <li>Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Decrease feed rate/cutting speed.</li> <li>Ensure hot lines have correct voltage on all legs.</li> <li>Inspect and replace if faulty.</li> <li>Test and replace if faulty.</li> <li>Replace bad belt(s), align pulleys, and re-tension.</li> <li>Test for good contacts; correct the wiring.</li> <li>Remove and replace brushes (refer to <b>Page 34</b>).</li> <li>Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> <li>Use sharp lathe bits and chisels; reduce the feed rate/depth of cut.</li> <li>Test/repair/replace.</li> </ol>
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> <li>Motor or component is loose.</li> <li>V-belt(s) worn or loose.</li> <li>Sandpaper damaged, off center, or rubbing.</li> <li>Pulley is loose.</li> <li>Machine is uneven on floor/poor mounting.</li> <li>Workpiece or chuck (if installed) is at fault.</li> <li>Motor bearings are at fault.</li> <li>Spindle bearings at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid.</li> <li>Inspect/replace belts (refer to <b>Page 33</b>).</li> <li>Replace sandpaper evenly; adjust table-to-disc distance.</li> <li>Realign/replace shaft, pulley, setscrew, and key.</li> <li>Tighten floor mounting; relocate/shim machine.</li> <li>Center workpiece in chuck or face plate; reduce RPM; replace defective chuck.</li> <li>Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> <li>Test by rotating spindle; rotational grinding/loose shaft requires bearing replacement.</li> </ol>





## Wood Lathe Operation



SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Workpiece vibrates excessively.	<ol style="list-style-type: none"> <li>1. Workpiece mounted incorrectly.</li> <li>2. Workpiece warped, out of round, or is flawed.</li> <li>3. Spindle speed is set too fast for mounted workpiece.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-mount workpiece, making sure that centers are embedded in true center of workpiece.</li> <li>2. Cut workpiece to correct, or use a different workpiece.</li> <li>3. Reduce the spindle speed.</li> </ol>
Chisels grab or dig into workpiece.	<ol style="list-style-type: none"> <li>1. Tool rest set too low.</li> <li>2. Tool rest set too far from workpiece.</li> <li>3. Wrong chisel/tool being used.</li> <li>4. Chisel/tool dull.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set tool rest higher. See <b>Page 17</b> for how to properly set the tool rest height.</li> <li>2. Move the tool rest closer to the workpiece. See <b>Page 17</b> for the proper workpiece/tool rest clearance.</li> <li>3. Use the correct chisel/tool; educate yourself by reading books, trade magazines, or seeking help from an experienced lathe operator.</li> <li>4. Sharpen or replace the chisel/tool you are using.</li> </ol>
Bad surface finish.	<ol style="list-style-type: none"> <li>1. Wrong spindle speed.</li> <li>2. Dull chisel or wrong chisel being used for the operation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use trial-and-error to find a better spindle speed.</li> <li>2. Sharpen chisel or try a different chisel.</li> </ol>
Inaccurate turning results from one end of the workpiece to the other.	<ol style="list-style-type: none"> <li>1. Headstock and tailstock are not properly aligned with each other.</li> </ol>	<ol style="list-style-type: none"> <li>1. Realign the tailstock to the headstock. See <b>Page 32</b>.</li> </ol>
Tailstock moves.	<ol style="list-style-type: none"> <li>1. Tailstock mounting bolt loose.</li> <li>2. Too much clamping pressure applied by tailstock.</li> <li>3. Bed surface is oily or greasy.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten.</li> <li>2. Apply less clamping pressure with tailstock.</li> <li>3. Clean bed surface to remove oil/grease.</li> </ol>
Hard to remove tapered tool from tailstock barrel.	<ol style="list-style-type: none"> <li>1. Tailstock barrel had not retracted all the way back into the tailstock.</li> <li>2. Debris was not removed from taper before inserting into barrel.</li> <li>3. Tapers have rust.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn the barrel handwheel until it forces taper out of barrel.</li> <li>2. Always clean tapers before installing.</li> <li>3. Remove rust and wipe down with metal protectant; do not keep tapers installed when not in use.</li> </ol>



# Aligning Headstock Spindle to Tailstock

A misaligned headstock will not give you accurate results and may be dangerous. This procedure takes approximately 30 minutes to complete and requires you to remove and discard the sandpaper disc if it is installed. If you need help locating any parts of the machine, refer to the parts breakdown.

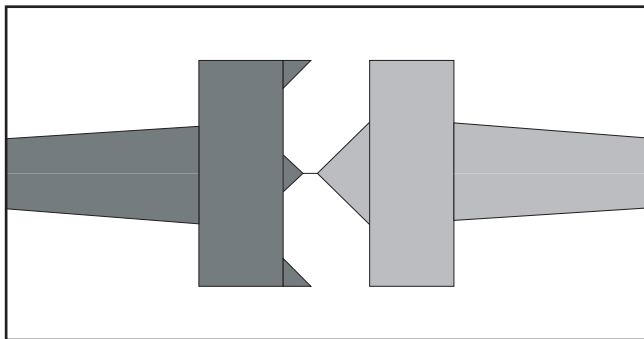
Tools Needed	Qty
Socket or Wrench 12mm.....	1
Socket or Wrench ½" .....	1
Hex Wrench 6mm.....	1
Hex Wrench 5mm.....	1
Hex Wrench 4mm.....	1
Phillips Screwdriver .....	1

## To check headstock/tailstock alignment:

1. DISCONNECT LATHE FROM POWER!
2. Remove the tool rest from the lathe bed.
3. With the spur center and live center installed, slide the tailstock up to the headstock so the tips of the centers are close to each other.

—If the tips of the centers will touch each other, as illustrated in **Figure 45**, the headstock and tailstock are already aligned and no further adjustments are needed.

—If the tips of the centers will not touch each other, then the headstock needs to be aligned with the tailstock.

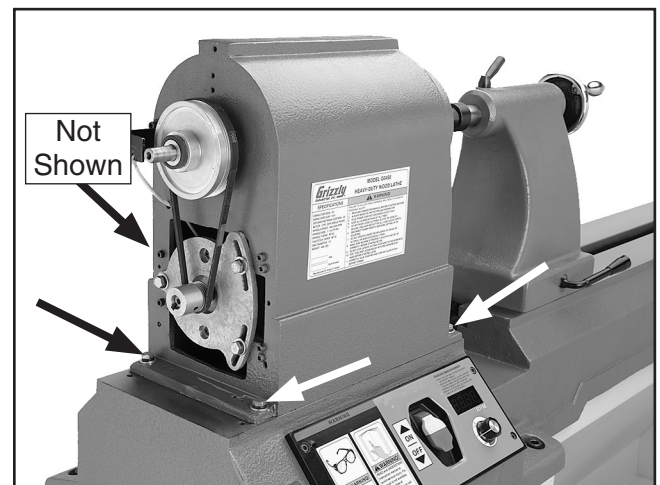


**Figure 45.** Center tips touching to ensure alignment.

## To align the headstock with the tailstock:

1. DISCONNECT LATHE FROM POWER!
2. Remove the table, dust port, and sandpaper from the sanding disc.
3. Remove the left-handed cap screw in the center of the sanding disc and slide the sanding disc off.
4. Remove the five cap screws (see **Figure 47** on **Page 33**) that secure the disc housing to the headstock, and remove the disc housing.

—You now have access to the headstock adjustment bolts, shown in **Figure 46**.



**Figure 46.** Headstock adjustment bolts.

5. Loosen the four headstock adjustment bolts, and position the headstock so the tips of the spur and live centers are as close as possible to touching.
6. Tighten the headstock adjustment bolts and reassemble all removed components in the opposite manner from which they were removed.



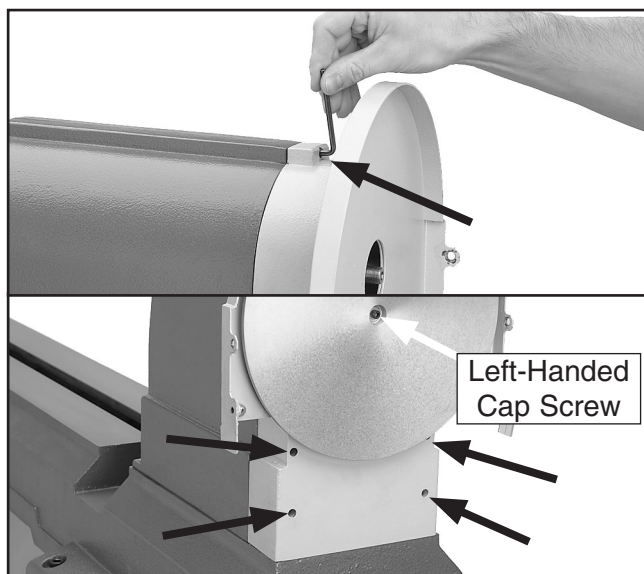
# Replacing or Tightening V-Belt

A loose or damaged V-belt will not adequately transfer power from the motor to the spindle. This procedure takes approximately 30 minutes to complete and requires you to remove and discard the sandpaper disc if it is installed. If you need help locating any parts of the machine, refer to the parts breakdown.

Tools Needed	Qty
Socket or Wrench 12mm.....	1
Socket or Wrench ½" .....	1
Hex Wrench 6mm.....	1
Hex Wrench 5mm.....	1
Hex Wrench 4mm.....	1
Phillips Screwdriver .....	1

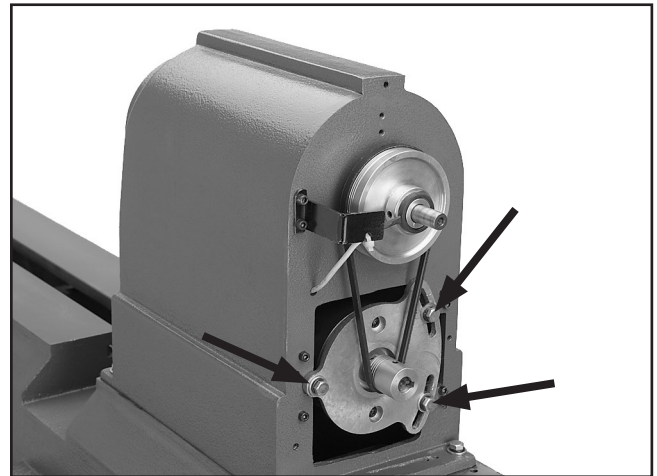
## To change the V-belt:

1. DISCONNECT LATHE FROM POWER!
2. Remove the table, dust port, and sandpaper from the sanding disc.
3. Remove the left-handed cap screw (turn clockwise) in the center of the sanding disc and slide the sanding disc off.
4. Remove the five cap screws (see **Figure 47**) that secure the disc housing to the headstock, and remove the disc housing.



**Figure 47.** Disc housing cap screw locations.

5. Loosen the motor mount bolts, shown in **Figure 48**.



**Figure 48.** Motor mount bolts.

6. **Replacing V-Belt:** Slide the motor toward the spindle pulley, then replace the V-belt, making sure that it is aligned in the correct grooves, and tension it as described below.

**Tensioning V-Belt:** Slide the motor down, hold firm downward pressure on it, and tighten the motor mount bolts.

7. Reassemble all removed components in the opposite manner from which they were removed.



# Replacing Motor Brushes

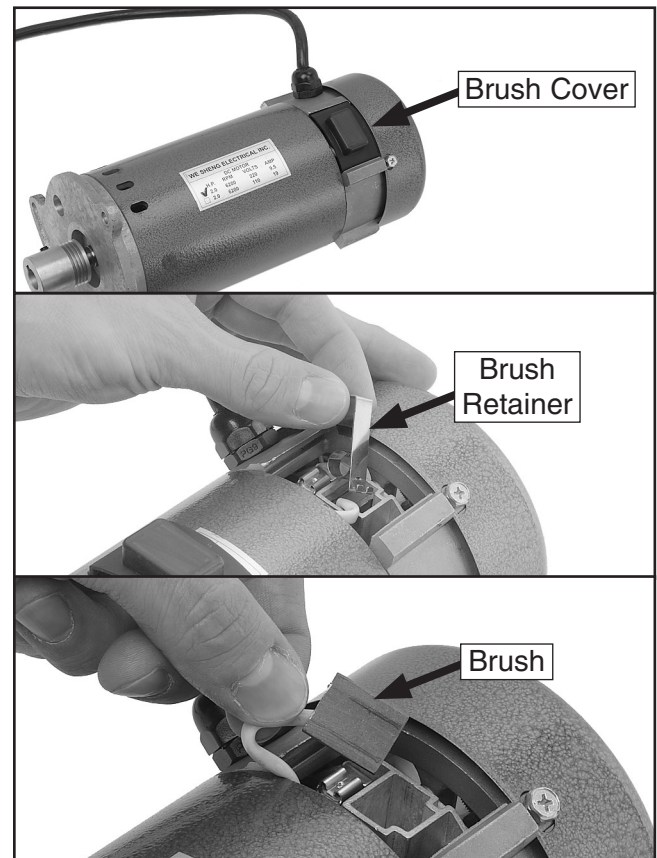
The Model G0456 features a DC motor, which uses heavy-duty carbon brushes. While these brushes are designed for extended life, they will eventually wear out, causing a loss of power or faulty starting. This procedure takes approximately 45 minutes to complete and requires you to remove and discard the sandpaper disc if it is installed. If you need help locating any parts of the machine, refer to the parts breakdown.

Tools Needed	Qty
Socket or Wrench 12mm.....	1
Socket or Wrench 1/2" .....	1
Hex Wrench 6mm.....	1
Hex Wrench 5mm.....	1
Hex Wrench 4mm.....	1
Phillips Screwdriver .....	1
Notepad and Pen/Pencil.....	1
Flashlight .....	1

## To replace the motor brushes:

1. DISCONNECT LATHE FROM POWER!
2. Remove the table, dust port, and sandpaper from the sanding disc.
3. Remove the left-handed cap screw (**Figure 47** on **Page 33**) in the center of the sanding disc and slide the sanding disc off.
4. Remove the five cap screws (**Figure 47** on **Page 33**) that secure the disc housing to the headstock, and remove the disc housing.
5. Loosen the motor mount bolts, shown in **Figure 48** on **Page 33**, slide the motor toward the spindle pulley, and remove the belt.
6. Look inside of the cabinet and trace the three motor wires to the back of the control panel.
7. Make a note or quick sketch of the position and color of the current carrying wires, so you will be able to connect them properly after you disconnect them.

8. Disconnect the three motor wires and ensure that the wires will not get tangled around other wires when you remove the motor.
9. Remove the motor mount bolts and the motor from the headstock.
10. Pry off the brush covers on the motor (see **Figure 49**), remove the brush retainer clips by simply pushing them down and releasing, and replace the brushes.



**Figure 49.** Replacing motor brushes.

11. Reassemble all removed components in the opposite manner from which they were removed.



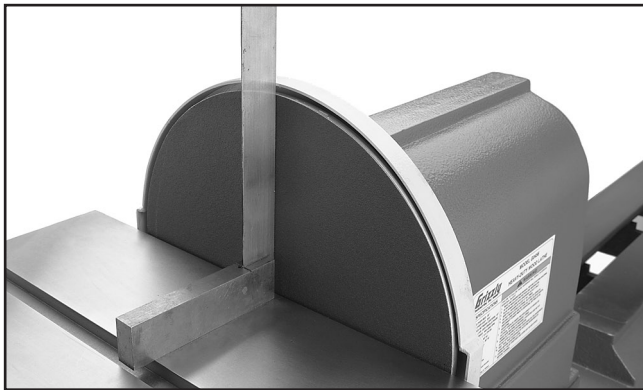
# Table Tilt

When the table tilt is set to 0°, the table should be adjusted perpendicular to the sanding disc face.

Tools Needed	Qty
Try-Square or Machinist's Square.....	1

## To adjust table tilt:

1. Using a try-square or machinist's square, set one edge on the table surface and the other against the face of the disc as shown in **Figure 50**. **Note:** This can be done with the sandpaper installed, although it is somewhat easier to measure if the disc does not have the sandpaper disc installed.



**Figure 50.** Squaring table to disc.

2. Loosen the lock lever, adjust the table angle square with the disc, and tighten the lock lever.
3. Adjust the indicator line over the 0° mark by loosening/tightening the mounting screw, as shown in **Figure 51**.



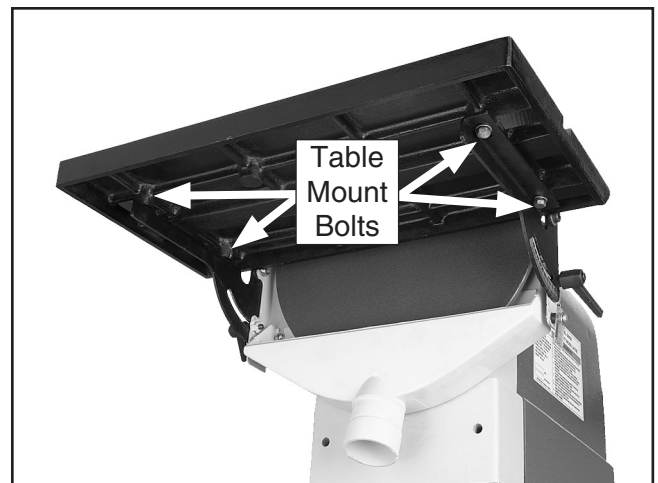
**Figure 51.** Adjusting table tilt indicator.

# Aligning Table

The table must be aligned to the face of the sanding disc so that the sandpaper does not rub against the table.

## To align the table:

1. Loosen the table mount bolts (**Figure 52**) that secure the table to the table support bracket.



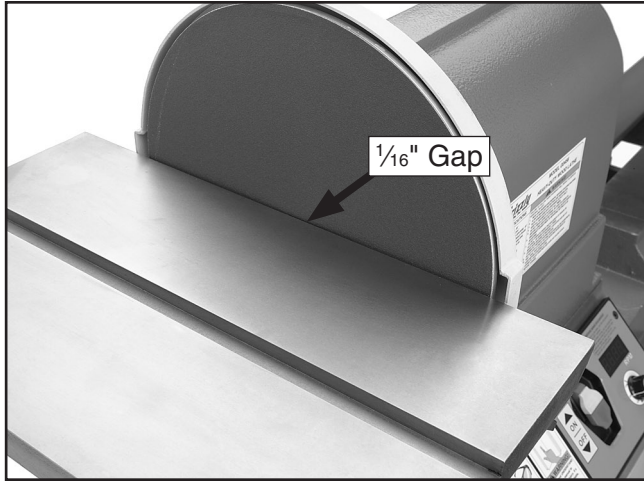
**Figure 52.** Table mount bolts.

Continued on next page →





2. Align the table so that there is approximately a  $\frac{1}{16}$ " gap between the 12" disc and the table (**Figure 53**).



**Figure 53.** Table aligned with sanding disc.

3. Tighten the bolts loosened in **Step 1**.
4. Spin the disc by hand to check if the sandpaper touches the table.

**Note:** *DO NOT turn the disc sander **ON** at this point.*

5. Repeat **Steps 1-3** if sandpaper touches the table at any point in the rotation.

# Miter Gauge

The miter gauge needs to be adjusted perpendicular to the face of the wheel when it is mounted in the table slot.

Tools Needed	Qty
Try-Square or Machinist's Square.....	1

## To adjust miter gauge:

1. Use a try-square or machinist's square with one edge against the face of the miter gauge and the other against the disc face as shown in **Figure 54**.



**Figure 54.** Squaring miter gauge to disc.

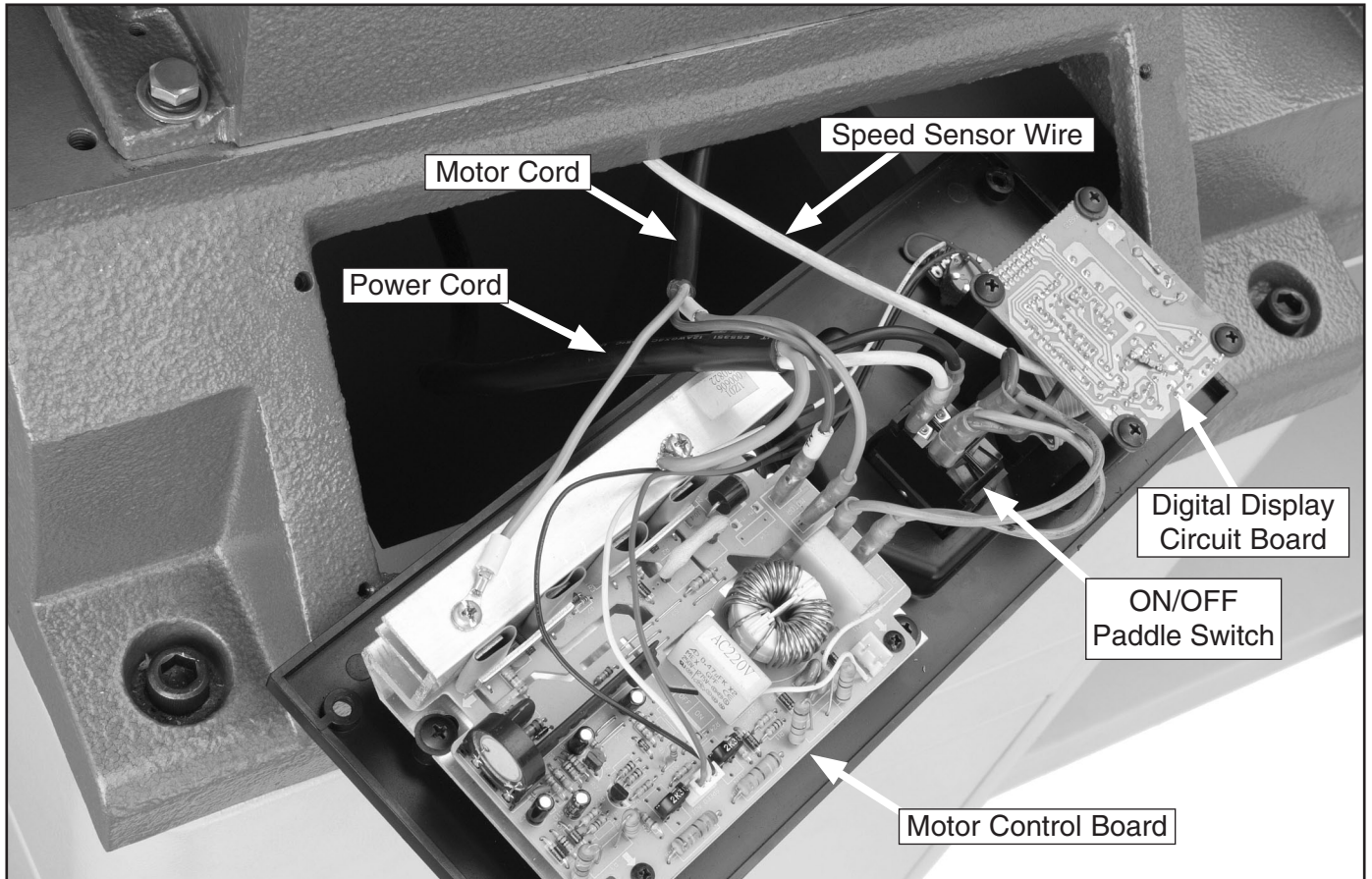
2. Loosen the adjusting screw on the miter gauge and adjust it flush with the edge of the square.
3. Tighten the gauge adjusting screw, and verify the setting.

**Note:** *Sometimes the tightening procedure can affect the adjustment.*

4. Loosen the screw that secures the angle pointer and adjust the pointer to the 0° mark.
5. Retighten the screw that secures the angle pointer.



# Electrical Components



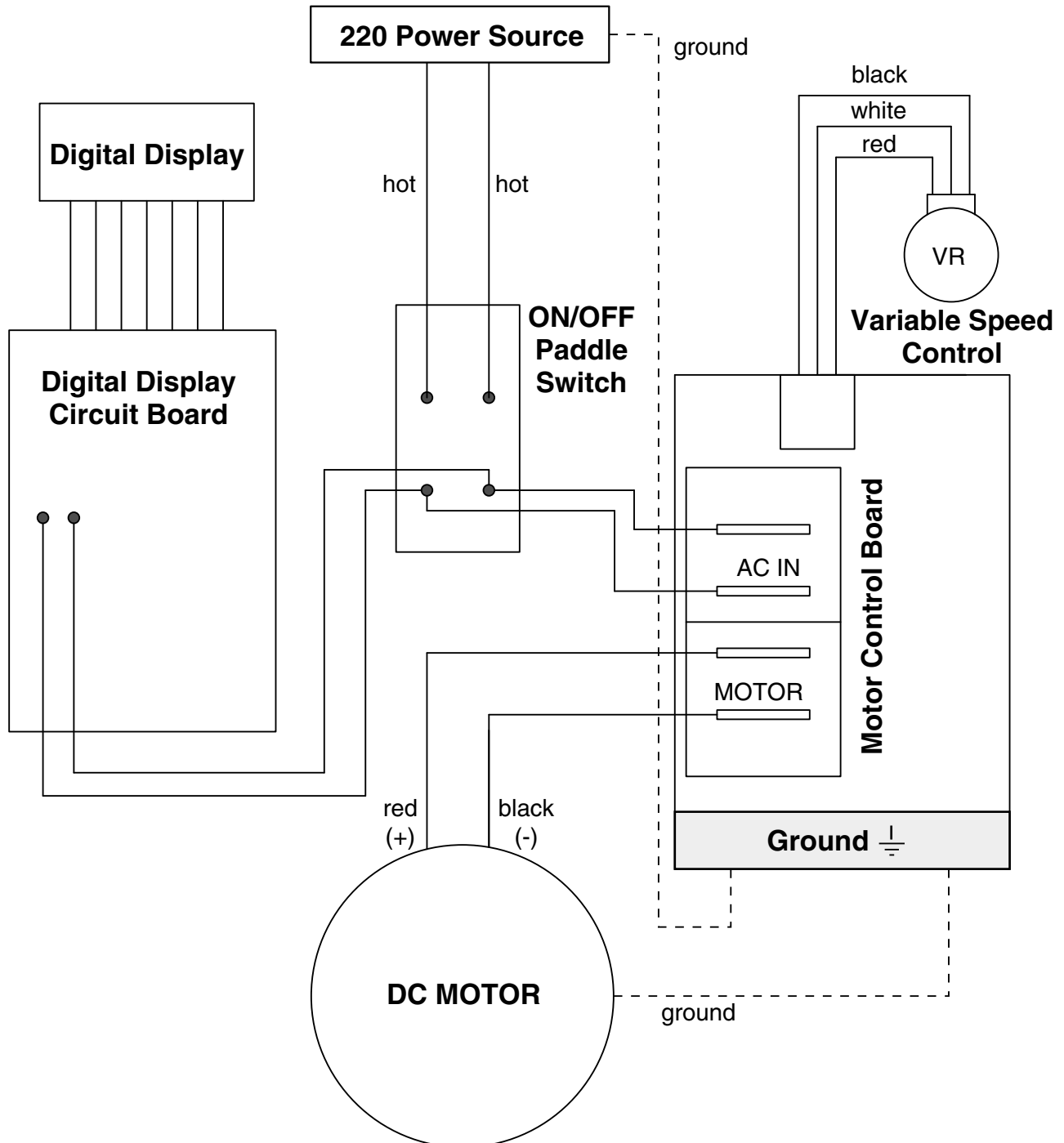
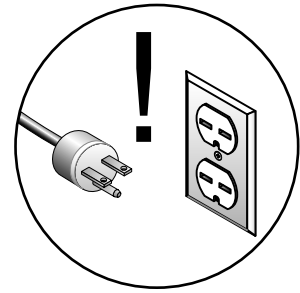
# Wiring Diagram



## MODEL G0456

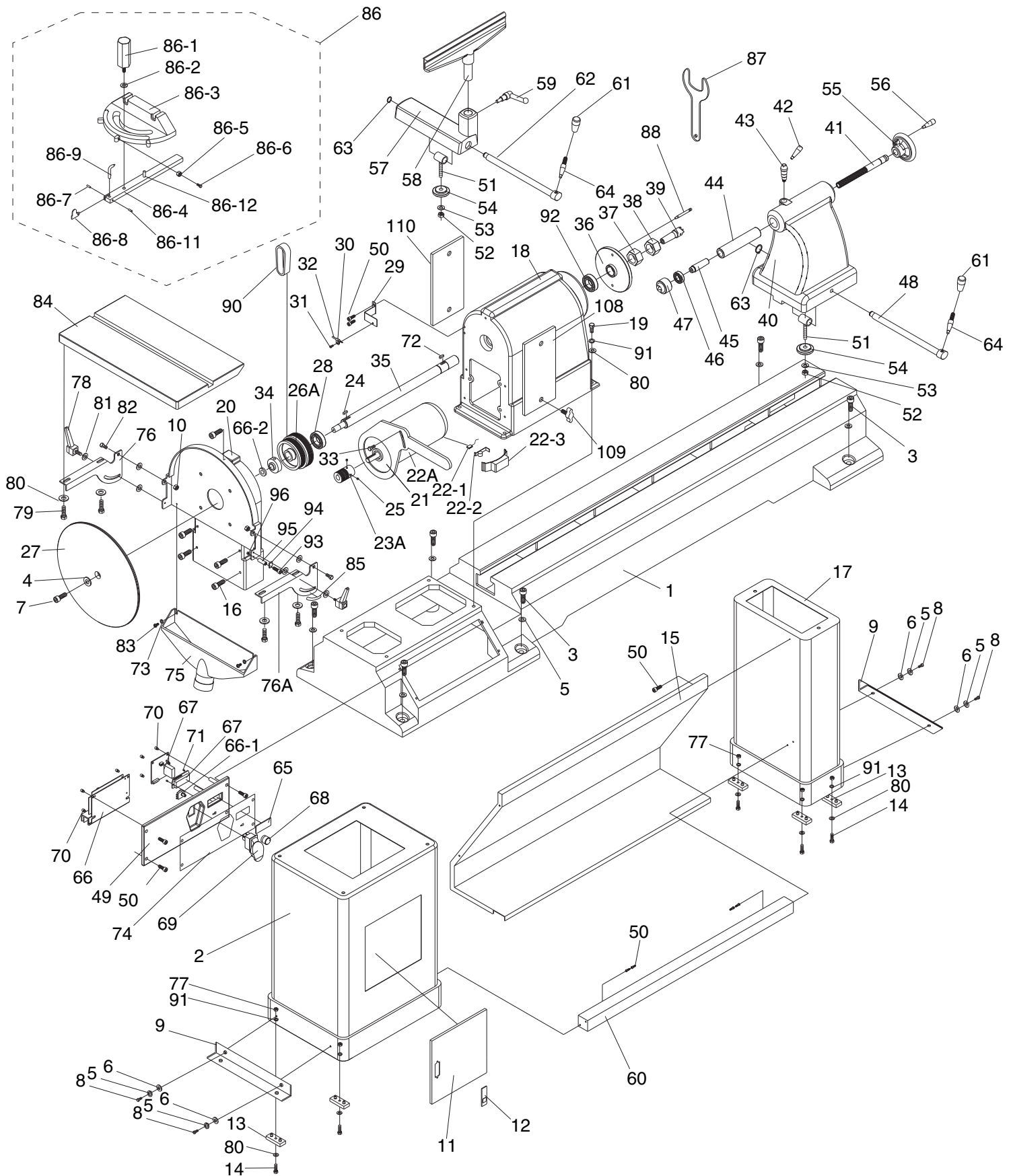
**⚠ DANGER**

Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!





# Parts Breakdown



# Parts List

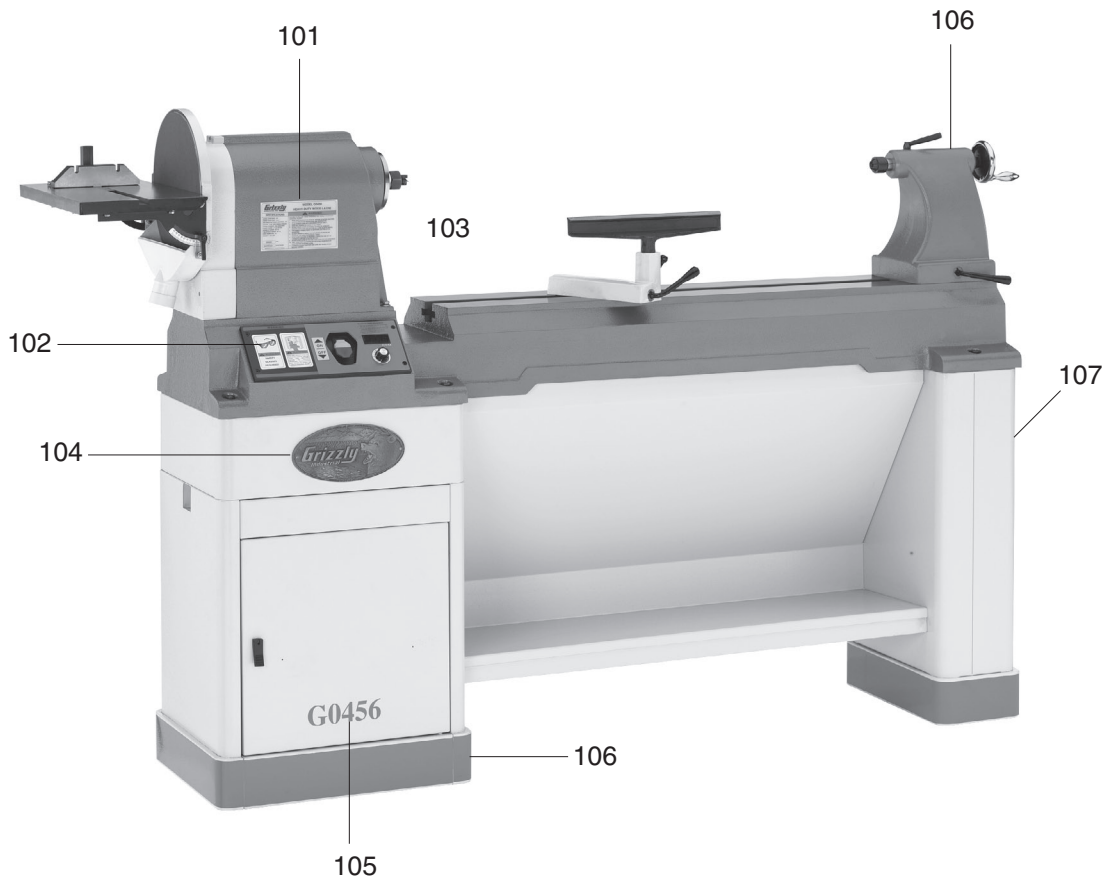
REF	PART #	DESCRIPTION
1	P0456001	BED
2	P0456002	CABINET STAND
3	PSB147M	CAP SCREW 7/16-14 X 1-1/2
4	PW06	FLAT WASHER 1/4
5	PLW05	LOCK WASHER 7/16
6	PW04	FLAT WASHER 7/16
7	PSB144M	CAP SCREW M6-1 X 25 LH
8	PB36	HEX BOLT 7/16-14 X 3/4
9	P0456009	L-BRACKET
10	PLN03	LOCK NUT 5/16-18
11	P0456011	DOOR
12	P0456012	STAND ACCESS HANDLE
13	P0456013	RUBBER FOOT
14	PS79	PHLP HD SCR 5/16-18 X 5/8
15	P0456015	PARTITION BOARD
16	PSB79M	CAP SCREW M5-.8 X 35
17	P0456017	RIGHT STAND
18	P0456018	HEAD STOCK
19	PB26M	HEX BOLT M8-1.25 X 30
20	P0456020	BELT WHEEL COVER
21	P0456021	MOTOR MOUNT PLATE
22A	P0456022A	MOTOR W/HANDLE
22-1	P0456022-1	BRUSH
22-2	P0456022-2	BRUSH RETAINER
22-3	P0456022-3	BRUSH COVER
23A	P0456023A	MOTOR STEP PULLEY
24	PK10M	KEY 5 X 5 X 12
25	PSS03	SET SCREW 1/4-20 X 3/8
26A	P0456026A	DRIVE STEP PULLEY
27	P0456027	SANDING DISC
28	P6005	BALL BEARING 6005
29	P0456029	SENSOR SUPPORTING FRAME
30	P0456030	CORD FIXER UC-0*3.2
31	PS06M	PHLP HD SCR M5-.8 X 20
32	P0456032	SENSOR CORD
33	PB87M	HEX BOLT M8-1.25 X 15
34	P0456034	MAGNETIC FIXER
35	P0456035	SPINDLE
36	P0456036	BACKING PLATE
37	P0456037	HEX NUT 1-1/2"- 8
38	P0456038	SPUR REMOVAL NUT 1-1/2"-8
39	P0456039	SPUR CENTER
40	P0456040	TAILSTOCK BASE
41	P0456041	TAILSTOCK SPINDLE
42	P0456042	SHORT HANDLE
43	P0456043	CAM SPINDLE
44	P0456044	QUILL
45	P0456045	LIVE CENTER SHAFT
46	P6002	BALL BEARING 6002
47	P0456047	LIVE CENTER HEAD
48	P0456048	TAILSTOCK LOCK SHAFT
49	P0456049	FACEPLATE
50	PSB50M	CAP SCREW M5-.8 X 10
51	P0456051	LOCKING RING SHAFT
52	PLN03	LOCK NUT 5/16-18
53	PW07	FLAT WASHER 5/16
54	P0456054	SLIDING BLOCK
55	P0456055	HANDWHEEL

REF	PART #	DESCRIPTION
56	P0456056	HANDWHEEL HANDLE
57	P0456057	TOOL REST BASE
58	P0456058	TOOL REST
59	P0456059	LOCK HANDLE M8-1.25 X 15
60	P0456060	STEEL TUBE
61	P0456061	KNOB 3/8"
62	P0456062	TOOL REST LOCK SHAFT
63	PR47M	EXT RETAINING RING 13MM
64	P0456064	HANDLE SHAFT
65	P0456065	WINDOW PLATE 55.8 X 24.4 X 2
66	P0456066	CIRCUIT BOARD MAG SYSTEM
66-1	P0456066-1	SPEED POTENTIOMETER
66-2	P0456066-2	MAGNETIC RING
67	P0456067	TRANSFORMER/INDICATOR SYS
68	P0456068	SPEED DIAL
69	P0456069	PADDLE SWITCH W/KEY
70	PHTEK18	TAP SCREW #10 X 5/8
71	PHTEK30M	TAP SCREW M3 X 6
72	P0456072	KEY 5 X 5 X 12
73	PLW03	LOCK WASHER #10
74	P0456074	PLATE STICKER
75	P0456075	DUST PORT
76	P0456076	LEFT SCALE
76A	P0456076A	RIGHT SCALE
77	PN02	HEX NUT 5/16"-18
78	P0456078	LOCK HANDLE M6-1 X 12
79	PB09	HEX BOLT 5/16-18 X 1/2
80	PW07	FLAT WASHER 5/16
81	PW03M	FLAT WASHER 6MM
82	P0456082	SPECIAL SCREW 5/16-18 X 5/8
83	PS01	PHLP HD SCR 10-24 X 1/2
84	P0456084	TABLE
85	P0456085	DISC SCALE
86	P0456086	COMPLETE MITER GAUGE
86-1	P0456086-1	HANDLE 1/4-20 X 7/8
86-2	P0456086-2	WASHER 1/4
86-3	P0456086-3	MITER GAUGE BODY
86-4	P0456086-4	MITER BAR
86-5	P0456086-5	HEX NUT 8-32
86-6	P0456086-6	PHLP HD SCREW 8-32 X 3/4
86-7	P0456086-7	SET SCREW 1/4-20 X 1/4
86-8	P0456086-8	STOP
86-9	P0456086-9	POINTER
86-11	P0456086-11	ROLL PIN 3 X 5MM
86-12	P0456086-12	SOLID PIN 8 X 20MM
87	P0456087	FLAT WRENCH 1-13/16"
88	P0456088	SPINDLE LOCK PIN
90	P0456090	BELT 200J
91	PLW01	LOCK WASHER 5/16
92	P6006	BEARING 6006
93	PB94M	HEX BOLT M5-.8 X 25
94	P0456094	POINTER
95	P0456095	UPPER SPACER
96	PN06M	HEX NUT M5-.8
108	P0456108	FRONT COVER
109	P0456109	KNOB
110	P0456110	REAR COVER



## WARNING

Safety labels warn about machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of the labels on the machine. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact Grizzly at (800) 523-4777 or [www.grizzly.com](http://www.grizzly.com) to order new labels.



REF	PART #	DESCRIPTION
101	P0456101	MACHINE ID LABEL
102	PLABEL-11	SAFETY GLASSES LABEL
103	PLABEL-12	READ MANUAL LABEL
104	G8588	GRIZZLY NAMEPLATE—SMALL
105	P0456105	G0456 MODEL # LABEL
106	P0456106	PAINT "HAMMERTONE GREEN"
107	P0456107	PAINT "PUTTY"



# WARRANTY AND RETURNS

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Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.





# WARRANTY CARD

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone # \_\_\_\_\_ Email \_\_\_\_\_ Invoice # \_\_\_\_\_

Model # \_\_\_\_\_ Order # \_\_\_\_\_ Serial # \_\_\_\_\_

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **Of course, all information is strictly confidential.**

1. How did you learn about us?

\_\_\_\_\_ Advertisement

\_\_\_\_\_ Friend

\_\_\_\_\_ Catalog

\_\_\_\_\_ Card Deck

\_\_\_\_\_ Website

\_\_\_\_\_ Other:

2. Which of the following magazines do you subscribe to?

\_\_\_\_\_ Cabinet Maker

\_\_\_\_\_ Popular Mechanics

\_\_\_\_\_ Today's Homeowner

\_\_\_\_\_ Family Handyman

\_\_\_\_\_ Popular Science

\_\_\_\_\_ Wood

\_\_\_\_\_ Hand Loader

\_\_\_\_\_ Popular Woodworking

\_\_\_\_\_ Wooden Boat

\_\_\_\_\_ Handy

\_\_\_\_\_ Practical Homeowner

\_\_\_\_\_ Woodshop News

\_\_\_\_\_ Home Shop Machinist

\_\_\_\_\_ Precision Shooter

\_\_\_\_\_ Woodsmith

\_\_\_\_\_ Journal of Light Cont.

\_\_\_\_\_ Projects in Metal

\_\_\_\_\_ Woodwork

\_\_\_\_\_ Live Steam

\_\_\_\_\_ RC Modeler

\_\_\_\_\_ Woodworker West

\_\_\_\_\_ Model Airplane News

\_\_\_\_\_ Rifle

\_\_\_\_\_ Woodworker's Journal

\_\_\_\_\_ Modeltec

\_\_\_\_\_ Shop Notes

\_\_\_\_\_ Other:

\_\_\_\_\_ Old House Journal

\_\_\_\_\_ Shotgun News

3. What is your annual household income?

\_\_\_\_\_ \$20,000-\$29,000

\_\_\_\_\_ \$30,000-\$39,000

\_\_\_\_\_ \$40,000-\$49,000

\_\_\_\_\_ \$50,000-\$59,000

\_\_\_\_\_ \$60,000-\$69,000

\_\_\_\_\_ \$70,000+

4. What is your age group?

\_\_\_\_\_ 20-29

\_\_\_\_\_ 30-39

\_\_\_\_\_ 40-49

\_\_\_\_\_ 50-59

\_\_\_\_\_ 60-69

\_\_\_\_\_ 70+

5. How long have you been a woodworker/metalworker?

\_\_\_\_\_ 0-2 Years

\_\_\_\_\_ 2-8 Years

\_\_\_\_\_ 8-20 Years

\_\_\_\_\_ 20+ Years

6. How many of your machines or tools are Grizzly?

\_\_\_\_\_ 0-2

\_\_\_\_\_ 3-5

\_\_\_\_\_ 6-9

\_\_\_\_\_ 10+

7. Do you think your machine represents a good value?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

8. Would you recommend Grizzly Industrial to a friend?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?

**Note:** We never use names more than 3 times.

\_\_\_\_\_ Yes

\_\_\_\_\_ No

10. Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CUT ALONG DOTTED LINE



FOLD ALONG DOTTED LINE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Place  
Stamp  
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GRIZZLY INDUSTRIAL, INC.  
P.O. BOX 2069  
BELLINGHAM, WA 98227-2069



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